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# USSR Report

NATIONAL ECONOMY

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18 FEBRUARY 1987

USSR REPORT  
NATIONAL ECONOMY

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## INVESTMENT, PRICES, BUDGET, FINANCE

### BUNICH EXPLAINS SELF-FINANCING CONCEPTS, PROBLEMS

Moscow EKONOMICHESKAYA GAZETA in Russian No 48, Nov 86 p 20

[Article by P. Bunich, USSR Academy of Sciences member-correspondent: "Self-financing: What It Means; What We Have Learned About It; What Problems It Entails"]

[Text] THE LAST STAGE OF COST ACCOUNTING: Although the terms "self-reimbursement for expenses" and self-financing are both used, the former often being placed in the same rank as, and even identified with the latter, it would appear they have different meanings. Self-reimbursement for expenses means that an enterprise's spending generates the money to cover this spending.

As a system for ensuring compliance with normative deadlines governing when expenses must be reimbursed, self-reimbursement for expenses does not mean that the profit resulting from self-reimbursement belongs to the collectives involved.

This is not the case for self-financing; that is, not only are expenses reimbursed, but profit (minus an excise to be used for social purposes) inures to the enterprise. Self-financing means that an enterprises's "own" resources are used to pay for its spending. And it is these resources which facilitate the next cycle of self-reimbursement.

Self-reimbursement of expenses is a principle and pre-requisite of self-financing, but does not include all aspects of self-financing in its province. Self-financing may be considered the next step in the cost-accounting system after self-reimbursement of expenses.

Another question is the relation of self-financing to cost accounting. It seems the concept of cost-accounting is broader. In addition to self-financing, it includes the ideas of relatively independent collectives, involvement of the masses in management, putting enterprise operational support and production line units on a cost-accounting basis, and the existence of a legal framework on which to base cost-accounting operations. This legal framework comprehends such concepts as the right of juridical person and contractual responsibility.

THE LOGIC OF DEVELOPMENT: Self-financing can only be carried to its logical conclusion if the possibility that unearned income will accrue is eliminated. Half-hearted self-financing is, strictly speaking, no self-financing at all, and at best is but a step toward it. The principles of total cost-accounting, self-financing, and self-reimbursement of expenses have been most faithfully implemented by the following: AvtoVAZ [Automated Volga Automobile Plant]; the Sumskiy Machine Building Scientific and Industrial Association; the household services sector; the five industrial union ministries that adopted the system in 1987; many major associations and enterprises from other ministries; and the USSR Minmorflot [Ministry of the Merchant Fleet]. These organizations use profit to finance retooling and expansion of production and to provide themselves with working capital. New construction remains outside the ambit of self-financing, although many new construction projects are in line with current standards and completely qualified to be financed by bank loans.

Self-financing covers fewer areas at the AvtoVAZ and, since the beginning of 1987, in light industry, construction, commerce, consumer cooperatives, and many agro-industrial associations as well. At the AvtoVAZ, for example, it does not include adding on capacities not connected with changing a model of automobile in production.

The self-financing system can operate with other than just limited success only if there is considerable spending to cover production costs and scrupulous records of all spending are maintained. The situation we face now has resulted because depreciation withholding for renovation work has been reduced and wages paid out are not accompanied by the additional sums needed to provide the money for public goods.

The self-financing system cannot be considered completely implemented if only certain components of the net income from collectives using the cost-accounting system are kept track of. Currently, the cost-accounting system pays out only one component of net income; that is, profit. Sales tax, the other component of net income, is generally not a part of the self-financing system. This means that the transition to the self-financing system results in the following problem: bringing the existing taxation apparatus in line with the self-financing system. Naturally, such a transition must not be to the detriment of the interests of the state.

FUNDS HELD IN RESERVE AND PRICES: We need to have a new attitude toward the reserve funds held by basic production units if we are to make the transition to complete self-financing, which will entail the formation of incentive and wage funds from direct taxes on output. The presence of reserves would permit collectives to make minor temporary deviations from performance enhancement schedules in order to reap more substantial benefits later. Included in such deviations would be spending on the following:

beginning or updating production of an item; acquiring new capital or technologies; and compensation for reduced profitability when saturating the market with a particularly fashionable product.

The use of reserves is still very limited. They serve mainly to cover losses associated with communal housing not accounted for in the Plan, shortages of working capital, etc.

Wage reserves include that amount of money which is higher than the normal ratio of average wage growth to increasing productivity. Consequently, these reserves are never used for balancing revenues and expenses in difficult circumstances.

The amount of money that goes into reserves is small, since accumulating reserves decreases the money available for stimulating production. Moreover, enterprises still have little interest in reserves. I feel that we should make collectives more dependent on their own revenues and reserve funds; this would ensure that collectives gave reserves the proper amount of attention.

Light industry is already using reserves to finance additional expenses associated with developing and incorporating new technology, covering losses from price reductions, and compensating other expenditures (except those used to raise wages). The rule according to which funds earmarked to stimulate economic growth can be used for a subsequent planning period may be considered a step toward implementing the new system. This rule means essentially that reserves can be accumulated to cover possible economic-growth fund shortfalls in the future.

Reforms in the way prices are set are one of the main prerequisites to establishing a true self-financing system. If prices are based on spending, it becomes possible to "self-finance" exaggerated depreciation, "compensate" unnecessary expenditures on raw and other materials, and create the appearance that excessively large wage funds are justified. And all this takes place as soon as price and outsized profit make it worthwhile. After all, price drives profit up. A genuine self-financing system, which is incompatible with these expense/profit imbalances, is actually based on earning at least some portion of receipts, and not, as many mistakenly think, just profit.

In this connection, it is extremely important to begin basing wage fund formation on weighted distribution of receipts, and not, as has been the case, independently of the performance of a production organization. This is in addition to having prices adjusted to the usefulness of an item. First, the amount of money necessary to support the next production cycle is taken out of total receipts. The remainder, the actual net production or gross income, is divided according to standards into wage and accumulation funds. This system, known as the income remainder technique, is being used by many kolkhoz's, sovkhos's, and industrial

enterprises. And starting next year, it will be introduced at the USSR Minneftekhimprom [Ministry of Petroleum Chemistry], the USSR Minlegprom [Ministry of Light Industry], and the BSSR Minbyt [Ministry of Domestic Services]. Another factor designed to help the self-financing system take hold is the new wage schedule introduced in the industrial sector. According to the new schedule, wage-fund formation will be based on certain standards, and a major step will thus have been made toward: eliminating the practice of forming wages based on staff tables; dismantling wage ceilings; and basing personnel wage growth on the income earned by each individual collective.

**INTERFACING WITH THE BUDGET:** Every system within the cost-accounting complex interfaces with the budget in a specifically designed way. Self-financing should be based on a tax mechanism which takes a portion of an enterprise's revenues for the budget. Other systems contradict the spirit of self-financing. These include the system which lets the "free remainder" of profit be put into the budget and another, based on the same principle, which distributes profit between enterprises and society on a percentage basis. The problem in such cases is that payments to the state are determined from the expenses planned for a given enterprise, although these expenses vary more in accordance with the specific enterprise and time period being dealt than with the enterprise's revenues, which would be more in conformity with the principles of self-financing.

Taxes on profits may take the following forms: proportional, as at AvtoVAZ; progressively increasing with the increase in the profit level, as at the Sumskiy Machine Building Scientific and Industrial Association; tied to profitability norms; and others. Net production (gross income) can be taxed. We should also discuss the problems associated with levying a property tax. Among the best known taxes are those which feed money into the different levels of budgets; that is, at the union, republic, and local budget levels.

Self-financing at an enterprise has matured when the resources needed for the successful operation of the self-financing system are obtained from income rather than from spending, as with percentage distribution of profit. In the latter case, the lower the profitability, the greater the percentage of profit that remains with the less profitable enterprise. At the same time, those who work better give society a much greater percentage of their profit. This situation results in what, despite its official title of self-financing, is nothing more or less than parasitism.

As soon as self-financing is adopted by a whole industry, it becomes clear that the enterprises it comprises produce widely varying profits per worker. These differences are caused by the objective factors which conditioned the development of the enterprise in the first place. For example, almost ten percent of the industries belonging to the USSR Minkhimash [Ministry of



Chemical Machinery] fall into the low-profit or subsidized loss category. In addition, there are whole industries which operate on a loss basis, such as the coal and housing industries. And there are loss-based sub-industries, such as lumbering operations and many types of urban transportation.

Enterprises with low incomes have a temporary need for subsidies that decrease every subsequent year. If such enterprises can save a portion of the subsidies allotted to them, they may use the money for their own growth; and if they overspend, they have to cover the excess sum from their own resources.

Very highly profitable enterprises might be temporarily given a regime of fixed payments. This sum would obviously be a portion of a single larger payment given to the appropriate ministry. Such a regime is planned for several ministries starting in 1987. If the industry begins giving subsidies to low-profit and loss-based enterprises, the sums noted above inure to the industry itself, with anything in excess of its needs going into the budget. And if subsidies happen to originate in the budget, the entire amount of all fixed payments must also inure to the budget.

At first glance, it would appear that a profitability level much higher (by seven to ten points) than the industry norm is a pre-requisite to an enterprise being regarded as in the very highly profitable category. However, the average profitability of some industries is higher than the prescribed norm, while in others it is lower. In the former group of industries, fixed payments leave collectives with excessive income, while in the second, they undermine the financial position of enterprises whose profitability may be somewhat higher than average, but is not quite at the level prescribed by norm. It is better to assign fixed payment taxes to enterprises with a real profitability significantly higher than what the norms prescribe.

It is preferable to see real profitability as steady over a period of several years (either in the past or future). If profitability in certain years turns out to be lower than the level prescribed in norms, the difference can be made up from reserves and credits; and if it is higher, the surplus can be put into reserves, used to pay interest on loans, and, if some portion of the profit remains undistributed, used to provide necessary goods or services for the collective once the remaining portion has had an amount determined by a progressive tax rate removed. When this system takes effect, the majority of enterprises in most industries will begin working in accordance with true cost-accounting principles; that is, without subsidies and garnishments.

Self-financing means that there must be a new relationship between enterprises and banks. The interest rate must rise to a point that reflects a planned balance between the amount of money available for loans and the economy's demand for credit.

And the interest policy has to become more flexible. As a rule, current interest rates are purely symbolic in nature. Penalty rates are somewhat higher, but even they do not and cannot play a major part. Under these conditions, the use of credit causes the income of collectives to grow artificially.

The mechanism governing how a loan is paid back is also in need of change. For example, long-term credits are paid back from funds used for expanding production or accumulating profits in excess of planned levels. But if both planned and in-excess-of-plan profit are divided up in accordance with norms, there will not be any in-excess-of-plan profit left for this purpose. Hence, long-term credits will be able to be liquidated only by using production expansion funds.

The relations that will characterize the self-financing system are in their infancy. Further steps to develop and publicize them will undoubtedly lead to new problems that will need to be solved. But the benefit promises to outweigh any cost. Hence, the prospect of difficulties in switching to the self-financing system should not be a deterrent to working on this promising new way of improving the economic mechanism; instead, it should be what mobilizes us, leading us to make bold decisions that will hasten the transformation of the system which runs the economy.

However, more than just bold decisions are needed. These decisions require action, and this, unfortunately, is often lacking. In addition, departmental instructions and ways of doing things frequently dampen the effectiveness of a plan. Old habits are dying hard. If we are to make a quantum leap forward, we will have to wage an uncompromising campaign in defense of every fundamental step taken toward progress.

13189

CSO: 1820/34

NEW CREDIT SYSTEM FOR KOLKHOZES, SOVKHOZES EXPLAINED

Moscow *Ekonomicheskaya Gazeta* in Russian No 1, Jan 87 p 11

/Article by V. Kochkarev, chief of the Credit-economics Administration for the APK of USSR Gosbank: "New Credit Mechanism"/

/Text/ USSR Gosbank has developed and on 1 January 1987 it will introduce into operations a unified system for issuing short-term loans to kolkhozes, sovkhozes and other agricultural enterprises.

The essence of this system lies in the fact that loans for the acquisition of commodity stocks and for covering production expenditures will be issued to farms (distinct from the former conditions) with no subdivision by crediting objects and with the aggregate norm for working capital being taken into account.

The creation of an effective economic mechanism for management assumes the extensive use of bank credit in all elements of the agro-industrial complex.

At the present time, USSR Gosbank is providing credit-account services for more than 120,000 enterprises and organizations of the APK /agro-industrial complex/. Loan funds make it possible for kolkhozes, sovkhozes and other enterprises of agro,rom to cover, with the aid of credit, up to 60-80 percent of all of their working capital and more than one third of their capital investments.

Experience has shown that this economic lever does not always exert an active effect with regard to improving the work of enterprises and organizations of the agroindustrial complex. Quite often these funds are expended for the purpose of covering financial problems caused by mismanagement and inefficient production operations.

What changes are taking place in the system for extending loans to agricultural enterprises? First of all, earlier instructions and directives having to do with the issuing of loans and maintenance of accounts have been simplified considerably and reduced in number. The number of loan objects and also documents which farms presented to Gosbank in order to obtain loans have been reduced considerably. The mechanism for extending loans will become more simple and more available for use by workers attached to Gosbank institutes and also by kolkhozes, sovkhozes and other agricultural enterprises.



Under conditions involving the conversion of enterprises over to a self-supporting and self-financing basis, in keeping with the new system for issuing loans, the role played by the current account of a farm will increase considerably. Earlier, this account did not fully reflect the earnings from the sale of products and this limited the opportunities for maneuvering the available funds and independence in expending them. The current account now reflects all of the income of an enterprise. At the same time, its funds can be used for covering the expenditures associated with the production activity of a collective. Credits are extended in the amounts stipulated in the plan for borrowed funds. The volume of such credits for individual farms is determined by the rayon agro-industrial association in coordination with a branch of Gosbank.

For the very first time, the organs of Gosagroprom /State Agroindustrial Committee/ are participating directly in the planning of credits. This is making it possible to satisfy in a more sound manner the requirements of kolkhozes, sovkhoses and other enterprises for loan funds, while taking into account the production conditions and product sales.

In order to raise the responsibility of agricultural enterprises for the efficient use of funds, the plans state that loans will not be extended if there is overdue indebtedness in connection with loans issued earlier. However, in some instances a director of a Gosbank institute, in response to a petition by an enterprise that is strengthened by appropriate computations, can hand down a decision granting a further loan for a period of up to 60 days, despite non-payments for loans issued earlier. In addition, Gosbank can extend a loan, upon a petition by the RAPO /rayon agro-industrial association/, for a period of up to 30 days, upon the condition that the measures required for eliminating overdue indebtedness will be undertaken during this period.

During the course of loan-accounting relationships with enterprises, Gosbank promotes timely wage computations for the rural workers. Under the new conditions, when a farm temporarily lacks the funds required for this purpose, Gosbank can extend credit to it for a period of up to 30 days. If an enterprise is experiencing financial difficulties caused by agricultural crop or livestock losses or as a result of a shortfall in output caused by natural calamities and if it is for this reason that it is unable to pay back loans extended earlier, Gosbank can, prior to a solution being found for covering such losses, defer repayment of the loans by a farm until 15 March of the following year.

A differentiated regime for issuing loans to both strong and weak enterprises is being expanded considerably. If a farm is systematically failing to fulfill its plan, if it is tolerating above-plan expenditures and violations of financial discipline and if it is not repaying its loans in a timely manner, it is transferred over to a special crediting regime. In the case of such farms, Gosbank raises the loan interest rate by one half. Each month a check is carried out on the special purpose use of credit. In short, credit sanctions are aimed at ensuring that the farms accelerate the carrying out of measures directed towards eliminating their financial violations. Committees must be established in the various areas for checking upon their activities and for developing measures for eliminating the shortcomings noted.

The new system for extending loans takes into account the peculiarities of the kolkhoz-cooperative form of ownership and the conditions for the formation of internal working capital. If a kolkhoz does not have such capital available for expanded reproduction, then the actual internal working capital available at the beginning of 1987 and the increase in its annual plan are used as the norm when extending credit to it. The task consists of such farms being able to raise their internal working capital to the established norms during the current five-year plan based upon improvements in their economies.

Unfortunately, many kolkhozes and sovkhoses are not displaying concern for the efficient use of funds and they are striving to cover expenses not through earnings from the sale of field and farm products but rather by means of budgetary appropriations and Gostbank loans. Whereas throughout the country, as a whole, a trend is being observed towards a merging of the rates of growth in credit investments and volumes of agricultural production, in the case of kolkhozes and sovkhoses in the Ukraine, Kazakhstan, Azerbaijan and Kirghizia the amounts of borrowed funds are increasing more rapidly than is production.

Here are specific examples.

On 1 January 1986, the loan indebtedness of the Sapovit Ilichev Kolkhoz in Tsarichanskiy Rayon in Dnepropetrovsk Oblast exceeded its existing working capital by a factor of 1.6 and its gross output volume by a factor of 3.4. Over the past year, the growth in credit investments for kolkhozes in the Moldavian ASSR exceeded the growth in gross output by a factor of 1.9. There are many farms which spend the principal portion of their additional income obtained from raised purchase prices and the introduction of mark-ups not for the carrying out of measures associated with increasing the production of goods but rather for wages.

The proportion of the consumption fund is especially high at kolkhozes in Kazakhstan, the RSFSR, Tajikistan, Armenia and the Ukraine. A number of kolkhozes have literally started out on the path of "consuming funds accumulated earlier. Each year they spend larger sums than they are obtaining from the sale of products. Thus at the kolkhozes imeni Amangeldi in Turkestański Rayon in Chirchik Oblast and Drushba in Ryatikhatskiy Rayon in Dnepropetrovsk Oblast the expenses for wages exceed the total amount of gross income by a factor of 2-4. The Pravda Kolkhoz in Saryasiyskiy Rayon in Surkhan Darya Oblast fell short in its gross income by 272,000 rubles, while at the same time it used 342,000 more rubles from its wage fund than planned. This was the result of serious shortcomings by the farms in the use of their wage funds.

In recent years, the rates of growth for wages at kolkhozes and sovkhoses throughout the country have exceeded to a considerable degree the rates for farm productivity. In a number of instances, this was the result of higher than average wages on the farms. The deductions for augmenting the indivisible funds are declining sharply at many kolkhozes. Over the past 7 years, expenditures for the mentioned purposes at kolkhozes throughout the country as a whole decreased by 1.1 billion rubles or by 37 percent.

At the same time, farms are diverting large amounts of working capital for capital investments and for other unplanned purposes. It is sufficient to state

that on 1 October 1986 these diversions at kolkhozes amounted to more than 4 billion rubles and at sovkhoses -- approximately 3 billion rubles. In the economic turnover of sovkhoses in the Uzbek SSR, more than one half of the norms for internal working capital was diverted for unplanned expenditures. And at sovkhoses in the Kazakh, Moldavian, Kirghiz and Tajik SSR's, all of the deferred indebtedness connected with Gosbank loans resulted from a diversion of working capital from economic turnover for unplanned purposes.

Mention must also be made of the fact that many kolkhozes and sovkhoses are not devoting serious attention to the production-financial plan. According to the situation on 21 February 1986 (established period 25 February), the institutes of Gosbank were presented with plans by only 1,600 of the country's kolkhozes (six percent). Some farms in Gurdzhaanskiy and Kvarelskiy rayons in the Georgian SSR were 13-27 days late in presenting their plans. The sovkhoses imeni S. Vorgan and imeni Lenin in Dashkestanskiy Rayon in the Azerbaijan SSR were late by 60-69 days. A similar situation was observed for farms in a number of rayons in the Armenian SSR.

A number of important indicators called for in the plans were considerably lower than the level actually achieved. Thus the Tsakhkashen Kolkhoz in 1986 at Aparanskiy Rayon in the Armenian SSR planned a labor productivity level, a production volume for gross agricultural output and income amounts which were lower than the average indicators achieved during the 11th Five-Year Plan. At the same time, the plans called for an increase in wages of 15 percent. In the production-financial plan of the Rossiya Kolkhoz in Kashinskiy Rayon in Kalinin Oblast, 97 percent of the gross income, or 78,000 more rubles than last year, was earmarked for wages. With a shortage of internal working capital in the amount of 182,000 rubles, the farm is not planning any deductions from income for augmenting this amount but rather it will seek additional credit from Gosbank for its production expenditures.

A strengthening of planning and financial discipline, a strict regime for realizing economies in each sector and improvements in the credit and accounting mechanism will promote more rapid development for all elements of the agro-industrial complex.

7026

CSO: 1824/112

## AGRO-ECONOMICS, POLICY, ORGANIZATION

### PRIVATE PLOT INCOME QUESTION DISCUSSED

Moscow ARGUMENTY I FAKTY in Russian 11-17 Nov 86 p 16

[Untitled article under the "Question-Answer" Rubric by N. Zhelnorova; first paragraph is source introduction]

[Text] "I think that personal plots alongside farms are a disguised form of private ownership and free enterprise, incompatible with socialist industry. Certainly the owners extract great unearned profits from their 'subsidiary' farms." -- E. Simkin. Kalinin

This somewhat heated statement from a reader is not an isolated example of what we receive in our mail. Many people try to differentiate between personal subsidiary farms as the "private sector" and collectivized agriculture. Let's determine their place and weight in agriculture and then speak about profits.

Personal subsidiary farms occupy 6.17 million hectares of the country's total of 212.6 million hectares of planted land. The people generally plant potatoes, vegetables and melons on this land. Grain crops take up only 920,000 hectares and feed crops 850,000. In addition, there are 24 million head of cattle, 14 million pigs and 32 million sheep and goats being raised on personal subsidiary farms.

The 34 million subsidiary farms (there are that many in our country), an integral part of socialist agricultural production, moreover, contribute substantially in resolving the food problem: they produce almost 30 percent of the milk, meat and eggs; 60 percent of the honey; 58 percent of the potatoes; 30 percent of the vegetables and almost 60 percent of the fruits and berries. The overall portion of these farms in wholesale agricultural production amounts to almost one-fourth. Can we at present disregard such an important supplement to the Soviet people's table? I think the answer is obvious. In fact, such a volume of production on kolkhozes and sovkhoezes might require a doubling of the fields for labor-intensive crops such as vegetables and fruits, a 30 percent increase in cattle and a search for physical and labor resources.

The basic portion of products raised on personal subsidiary farms is used for internal, that is, family consumption, which greatly decreases the burden on

the state for foodstuffs. The surplus, about 11 percent of what is cultivated, is sold to the state by a consumers' cooperative or sold in markets. In particular, from 40 to 50 percent of the potatoes, vegetables and eggs and 90 percent of the milk and wool are sold just through state or cooperative trade. In this way the owners of personal subsidiary farms feed not only their own families but many citizens as well.

It is very important not to forget that the nature of personal subsidiary farms is especially socialistic. Judge for yourselves. First, they are run on land that is state property. Second, workers engaged in socialist production own them. They are sovkhos and kolkhoz employees and workers. And if we were to speak about orchard and garden partnerships and about country plots, then representatives of practically all categories and social groups have them. Third, personal subsidiary farms operate without the use of hired help, and at the same time often utilize labor resources which cannot be used in socialist production: adolescents, pensioners, invalids and mothers with many children. I must add that managing a personal subsidiary farm plays a major role in the labor education of the next generation and in helping people stay where they are.

For several categories of workers, especially those whose work is more mental than physical, taking care of a personal parcel of land is an attractive alternative and serves as a form of relaxation away from stressful primary occupations. Even those working the fields and farms in agriculture find the notion of "relaxation" while running a subsidiary farm quite natural. This intensive labor, without days off or holidays, is a "second shift" after the main one. Sociological studies show that subsidiary farm work requires no less than three hours a day during the summer. Labor expenditure estimates for cultivating vegetable crops amount to about seven billion man-hours annually, which, in fact, equates to the socialist labor production of three million people.

The opinion is held that productivity on personal subsidiary farms exceeds that of socialist agricultural production. However, this opinion is true only regarding the final phase of production--product processing and storage. While kolkhozes and sovkhoses sometimes lose up to one-fourth of the harvest, subsidiary farms make use of everything--from the very tops of the plants to the tips of the roots.

Let's now discuss income. To those who lack farmside plots, this "article" arouses special emotions. Probably no one would argue that as long as labor in socialist industry is the main source of incomes, then everything is in order. Budgetary studies of those workers who continually participate in socialist production show that the proportionate share of their income from sales of surplus products from their subsidiary farms or garden plots increases their incomes by one-third. As you can see, while this is not a major increase, it is still quite a substantial supplement to one's socialist production income. Insofar as subsidiary farm labor in many instances is overtime work, then the returns must be higher. And what then is the effect on one's health?



It is quite another matter, though, if a subsidiary farm, a suburban land parcel, is transformed into a source of easy profit, of enrichment. There are many such examples. There are well-known instances in which hothouses, where early ripening fruits and vegetables are grown, provide their owners profits amounting to 20,000 rubles per season. It's clear that such "agriculturists" regard their subsidiary farms as their primary work and of ultimate importance, and their primary labor activity becomes a secondary occupation "supported" only in writing in their labor books where minimal pay conceals income and helps protect them from being declared parasites.

The business people essentially use the land which does not belong to them, but to the entire state, not to help society but rather to become well off, not to work with all their might to serve society. But how can we object when, after all, they serve society by producing foodstuffs for the people? Really, isn't there a difference in how and for whom these ends come about?

It is true that we do need early vegetables and "first" strawberries. To provide joy to our children and to the ill, it seems, no amount of money is too much. This is what the profiteers rely on.

Can someone at the factory or in the mine, where work is tougher than in the hothouse or on a garden plot, earn 10-20,000 rubles a season? The answer is clear. This is just what outrages honest workers and just what causes us to differentiate in our understanding of justice.

In Estonia, for example, if someone happens to begin to take too great an interest in a personal business and forgets about his work in socialist production, then the following year he will not receive pasture, feed or young livestock. Here they might even reduce his farmside parcel.

In a word, if "personalized" garden plots overshadow everything else and greed becomes one's most important and vital interest, then only bad can come from this. Such "zealous ones, who have only the public's interest at heart," as they refer to their own actions, are essentially smart dealers who have multiplied the thousands in their little books (they're just the people our reader from Kalinin, no doubt, had in mind) and must be a matter for responsible organs. They are especially active in their work now after the CPSU Central Committee issued the decree "on measures to intensify the battle against unearned income." The realization of this decree inhibits attempts to transform personal subsidiary farms into a source of unearned income, that is, private industry. Something subsidiary must remain subsidiary.

Meanwhile, restrictions and prohibitions are still not a solution to this problem. Releasing us from "frenzied" price changes at the market, we hope, can help make the consumers' societies more resourceful and enterprising. They have been given great latitude in the purchasing, processing and sales of agricultural products.

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## REGIONAL DEVELOPMENT

### KAZAKH AGROPROM CONFERENCE FAULTS APK PERFORMANCE

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 19 Dec 86 p 3

[KazTAG report: "The Entire Economic Mechanism of Agroprom--In Operation"]

/Text/ The tasks for further improving administration and the economic mechanism for management in the republic's agro-industrial complex were examined during a meeting on 18 December of the State Agroindustrial Committee for the Kazakh SSR.

Implementation of the decree of the CPSU Central Committee and the USSR Council of Ministers concerning this problem and the beneficial influence it is exerting with regard to strengthening the economy and the need for carrying out personnel work in a consistent manner and for accelerating the reorganization were discussed in a report delivered by the 1st deputy chairman of Gosagroprom /State Agroindustrial Committee/, Minister S.A. Abdildin and in various speeches delivered.

Attention was focused on further increasing the production and procurements of grain, potatoes, vegetables, fruit and animal husbandry products. However, the rates of growth for the production of goods in many oblasts and throughout the republic as a whole are not in keeping with the tasks embodied in the Food Program. The experience of leading sovkhozes and kolkhozes reveals that the principal path to be followed for solving the impending tasks is that of production intensification and the introduction of industrial technologies. Unfortunately, farming is being carried out in a number of oblasts using obsolete methods. It is lagging behind in particular in Turgay, Aktyubinsk and Karaganda oblasts.

As is known, the CPSU Central Committee has adopted a special decree on the development of animal husbandry in Kazakhstan. Many improvements have been carried out and this is evident in the annual results. Nevertheless, the branch is progressing only slowly.

The organs of Gosagroprom have still not launched a campaign of organizational work directed towards implementation of the special purpose "Feed and Protein" program. The return from sowings of perennial grasses is low. Improvements in arid pastures are being realized very slowly. Stern measures are being employed against those who are issuing feed to their animals in unprocessed form.

The farms are sustaining large losses in food resources owing to the fact that enterprises of the meat and dairy industry operate from a weak base. Increases must take place in the production of confectionery products, juices, mineral water, apple vinegar and vegetable oil in packaged form at restructured enterprises.

Attention is being given to the interruptions which are taking place in the program for keeping the population supplied with potatoes and vegetables. Despite the fact that a considerable amount of work has been carried out in this regard, a large portion of the republic's fruit and vegetable canned goods is still being imported on an annual basis. Meanwhile, only weak use is being made of the considerable local potential for branch development.

It was emphasized during the meeting that the art of directing production operations and achieving good final results in each production sector is today viewed as being an economic category. A campaign against mismanagement, waste and embezzlement should be carried out in a strict and decisive manner.

A question was raised regarding the slow reduction in the number of chronically unprofitable farms. For example, the expenditures for wages at the Krasnyy Pochin Kolkhoz in Aktyubinsk Oblast exceeded the gross income by threefold. The financial results for this year and for this oblast on the whole are expected to be unsatisfactory. Similar results are expected for Semipalatinsk, East Kazakhstan, Ural, Alma-Ata, Chirchik, Taldy-Kurgan and Turgay oblasts.

Planning discipline is low in a number of areas and proper exactingness is not being imposed upon the personnel with regard to red tape and eye-wash. Serious complaints are being registered against the republic's agricultural science. A check has revealed that a normal creative atmosphere has not been created in a number of scientific collectives of the Eastern Branch of VASKhNIL /All-Union Academy of Agricultural Sciences imeni V.I. Lenin/.

The participants in the meeting noted that consistent implementation of the program for achieving maximum production intensification has created favorable prerequisites for converting over to the new managerial methods in a decisive manner and in all areas. At many sovkhoses and kolkhozes, high final results are being achieved by those collectives which operate on the basis of contracts. Thus the crew headed by S. Gavriluk at an experimental farm of VNIIZKh /All-Union Scientific Research Institute of Grain Farming/, located in Shorlandy, obtained a grain yield this year of 32 quintals per hectare and for a quintal of grain it expended only 15-17 minutes of time, or less by a factor of four than the average for Tselinograd Oblast.

Allow me also to cite an example taken from Pavlodar Oblast. A 3-man family team headed by A. Rudko at the Kolkhoz imeni Panfilov is engaged in the fattening of 860 head of cattle. Against a plan calling for 800, it is obtaining 1,200 grams of average daily weight increase in the young bulls. Other oblasts offer similar examples. But Gosagroprom and the republic's trade union committee for workers attached to the agro-industrial complex are still not doing all that they can in connection with summarizing and disseminating leading experience in this work.



At the same time, a considerable amount of formalism is being tolerated when introducing the collective contract and cost accounting into operations, farm subunits are not being supplied with expenditure limits for the production of goods and there is no material interest in wages based upon final results.

The administrative structure for production at the farm level is still not in keeping with the requirements imposed by the new cost accounting relationships. The bookkeeping and economic services are not coordinating their operations and branch specialists and production technologists are being drawn into this work in an unsatisfactory manner. Excessive administration is often the case in work being carried out with contractual teams, crews and farms.

Special attention must be given to developing collective, continuous and family contracts and other progressive forms for labor organization and stimulation and for eliminating stereotyped operations. Importance is being attached to ensuring that workers at all levels of agro-industrial production master as rapidly as possible the economic methods of management. Guided by the aims of the CPSU Central Committee, mass training must be organized in all areas for the personnel in specific economics, in efficient production organization and in the leading technologies.

The personnel must be trained not to exist on the basis of resources obtained from the state or without returning such resources. They must obtain maximum output with minimal expenditures and they must convert their farms over to a self-supporting and self-financing basis in a more rapid manner.

Special requirements are being imposed upon the rayon agro-industrial associations. The majority of them are still operating on the basis of obsolete methods. An emphasis on paper and red tape predominate within a number of oblagroproms. The reorganization is being dragged out in the republic's gosagroprom. The whirlwind of paper work here has attracted many specialists. Control has not been organized over the carrying out of decisions handed down by party and soviet organs or over local decisions.

By no means has everything been done to improve the selection, retention and training of personnel. The turnover in agroprom leaders and specialists is high in Kustanay, Kzyl-Orda, Karaganda and other oblasts. Greater attention should be given to publicizing new and leading developments arising from the agroprom, to developing criticism and to responding in an effective manner to such criticism. Pausing to discuss the problems concerned with improving the work of agroprom partners and the republic's Ministry of Grain Products, the speakers mentioned the numerous complaints by workers regarding the quality and limited assortment of macaroni, baked goods and other products.

The republic's land reclamation specialists have many problems. The plans for construction-installation work are under threat of being disrupted and the schedules for placing new irrigated lands in operation and turning over agricultural water supply lines are being dragged out. The condition of the irrigated lands is arousing concern. Almost no increase is being noted in the yields from irrigated lands and the increase in gross agricultural crop yield is being achieved mainly as a result of an expansion in the irrigated fields.

Those in attendance cited instances of serious neglect in the organization of livestock wintering operations. Feed preparation lines have still not been placed in operation in many oblasts. Nor have normal working and living conditions been created for the livestock breeders on all of the farms. Many shortcomings persist in the preparations for spring field operations.

All available economic levers must be placed in operation, measures of an organizational and educational nature must be undertaken and improvements must be carried out in administration and in the management mechanism, so as to ensure more extensive deployment of the campaign to implement the decisions handed down during the 27th CPSU Congress and the 16th Congress of the Communist Party of Kazakhstan and the obligations for the current year and to create a strong foundation for the successful implementation of the plans for the second year of the five-year plan.

During the committee's meeting, speeches were delivered by the following: secretary of the Central Committee of the Communist Party of Kazakhstan A.P. Rybnikov, deputy chairman of USSR Gosagroprom L.N. Kuznetsov, 1st deputy chairman of the Council of Ministers for the Kazakh SSR and chairman of the republic's Gosagroprom E.Kh. Gukasov and an executive of the CPSU Central Committee V.F. Chernov.

The head of the Department of Agriculture and Food Industry of the Central Committee of the Communist Party of Kazakhstan I.V. Tsvetkov, secretaries of oblast party committees and the leaders of ministries and departments of the republic's agro-industrial complex all participated in the work of the meeting.

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## POST HARVEST CROP PROCESSING

### DISPARITIES IN GRAIN WEIGHT CALCULATIONS EXAMINED

Moscow PRAVDA (in Russian 6 Jan 87 p 2

/Article by K. Aksenov, Krasnodar Kray: "And What Is In the Hopper?"/

/Text/ Plant breeder V. Kostin has developed two varieties of durum winter wheat -- Kristall-2 and Korund. They appear to be high yield varieties and the procurement prices are higher by a factor of four than those for soft wheat. But these new varieties are being introduced into operations very slowly. Why is this?

I discussed this subject with an acquaintance, a kolkhoz chairman.

"You must understand" he stated, "It is certainly more profitable to work with durum wheat. It furnishes more income. Our farm is a strong one -- its current account includes 10 million rubles. The grain yield is 50 quintals and the profitability of wheat is almost 100 percent. Durum varieties are being grown on one third of our fields. In terms of productivity, they are still inferior to the soft varieties. The indicator for yields is sliding downwards. This will not bring forth praise!"

"On the other hand, the earnings from the sale of the grain will be several times higher" I said to the chairman, "Yes and the product is needed by the country."

"But why do we need money? We are unable to spend the money we already have. And no good can come from lowering productivity."

Such was the reasoning by this experienced master, an individual who knows the value of grain, land and rubles. He could not understand how the principle of "gross production" had assumed power. For the sake of this "gross production," both quality and income were being neglected. Concern is being evidenced not only for the amount of grain poured into a bin but also for the so-called hopper weight.

Exactly what is this "hopper weight"? One glances into the iron tray of a combine and sees a mixture of grain, chaff, crushed materials, slashed ears and weed seed.

I recall how during the past harvest season, while the combine operators were at dinner, the people's controllers carried out a check on the quality of the threshing work and uncovered a considerable amount of litter in the grain. Some "clever" machine operators had so adjusted the unit that a flow of waste materials was entering the hopper together with the wheat.

"Indeed, the payment is for the hopper weight" admitted one sharp combine operator.

"And do you just overlook this situation?" the controllers asked the agronomist reproachfully.

"We did not create this system" was the reply.

The system for computing yields based upon hopper weight was developed long ago and has been legalized by instructions handed down. It seems that it suits some of the economic leaders.

During a rayon meeting, a team leader spoke out -- a young individual wearing glasses, with a bushy grey-streaked hair style.

"We obtained 45 quintals of wheat per hectare" he stated.

Some noise in rebuttal of this statement was heard emanating from the hall: this is only an average yield for the Kuban region; many obtain greater yields. The machine operator remained calm and explained that they take into account not the hopper but rather the granary weight. The grain poured into the granary was clean and of 1st class quality. "We are not receiving money free of charge and we are not deceiving ourselves."

Even more noise was heard resounding throughout the hall, even applause. The grain grower had evidently found the target. How could inflated yields be avoided?

The problem of accounting for grain, it bears mentioning, is not a new one. One can imagine the reaction of the chairman of the Kavkaz Kolkhoz in Kurganinskiy Rayon A. Pakhaylo when he was informed that there was a deficit of 1,000 tons of grain at the storehouse. Auditors checked the documentation while enroute from the field to the storehouse: they confirmed the shortage. How did the grain disappear. Was it stolen? It is possible to conceal a bag or a ton and a half. But 1,000 tons were missing. More than 100 trucks would be needed for carrying it away.

"The grain is dry and thus it falls off" stated a storekeeper, citing the reason for the deficit, "It is delivered to the threshing floors directly from a combine. Subsequently we grade and dry it and give no thought to how much is lost in the process. The machines also bring in dirt from the platform. Thus a pile of waste product weighing several hundred tons lies on the ground. Look for yourself -- it is litter and yet in the documents it is listed as wheat."

The chairman fell to thinking. He called upon an economist and agronomist for assistance. All of them studied the situation thoroughly. And they found the guilty parties: the accounting system, the wages of combine operators.

Everyone is interested in making good earnings. Yes and some prestige is attached to receiving a bonus during a competition. Nor is everybody troubled if the grain contains a considerable amount of litter. At the present time, waste materials constitute 5 or more percent of the gross yield. This would seem to be a small amount. But for a large kolkhoz such as the Kavkaz, it is equivalent to 1,000 tons.

The experiment conducted at the Kavkaz Kolkhoz lasted for several years. The agronomists, auditors and people's controllers carefully monitored the movement of the grain from combines to the granaries. And hundreds of tons "disappeared" on all occasions. What was to be done? Forage which actually did not exist could not be written off as having been used on the farms.

How can the yield problems be corrected? Following heated arguments, the decision was made not to deceive oneself. The yield indicator per hectare would be determined after the grain had been cleaned on the threshing floor. A great amount of noise was heard at this point. The chairman was viewed critically by even his closest assistants. They maintained that he was not thinking about the kolkhoz's reputation and that he was lowering the yield deliberately. This will bring forth neither praise nor bonuses. The threshing floor was visited frequently by inspectors: they insisted that punishments would be handed down if the instructions were not followed.

Pakhaylo, without becoming excited, led the controllers to a heap of litter obtained following cleaning of the "hopper weight," asked:

"In your opinion, is this wheat?"

Other farms were encountering similar problems. In striving to raise the productivity (scarcely the most prestigious indicator in the rural areas), there are some who contrive to acquire fame by adjusting the combine. They cover the air baffles and impurities enter the hopper. But just as soon as the hullabaloo concerning record yields dies down, the kray organs are deluged with telegrams; there is nothing to feed to the livestock; help is needed from the state resources in the form of concentrates. According to the grain summaries, such resources are available and yet the storehouses are quite empty.

How can the marketability of the grain be raised and the amount of waste products reduced? Over the past two five-year plans, the Kuban region obtained 45 million tons of wheat, with 25 million tons of this amount being shipped to state granaries. A portion of the wheat was turned over to seed and carry-over funds. Where is the remainder? According to all of the documents, the grain was considered to be from select Kuban wheat. Could it be that it was fed to the livestock on farms? On almost every farm, a resentful reply was received:

"Do you think we are wasteful people? We issue only waste products on our farms."

"But according to the reports you have wheat."

"Yes, but this is the "hopper weight."

Today, many leaders and specialists are convinced: the system for computing yields is in need of refinements. The grain must be computed apart from the



impurities, since not everything that enters a hopper is wheat or barley. Quite possibly, it might make sense to evaluate the grain in terms of the different varieties, similar to milk, or by classes. The problem here is not one of names. To impose the same level on everything or to equate gold with chaff is simply tantamount to deceiving oneself.

Those who know the true value of grain do not try to stretch the "gross output" at any cost. At the Korenovsk elite seed sovkhoz, the wages paid to combine operators are based upon the quality of the grain. If the limit for waste materials is exceeded, no bonuses are issued. No longer is grain being lost at the Kavkaz Kolkhoz.

"All of our crews operate on a cost accounting basis" stated A. Pakhaylo, sharing his experience, "We pay them for the grain based upon the granary weight, that is, for the true grain."

And what about the instructions?

"Life itself is rejecting them" smiled Anatoliy Ivanovich, "The wheat is brought in from the combines, it is graded on the threshing floor and thereafter we place it in a storehouse. We compute the yield based upon the net product."

"Do you not fear that you will be reproached for a reduction in output?"

"Certainly, the indicator is declining. But who needs a faked situation? We are obtaining almost 56 quintals per hectare. And the plan is being covered and we have forage available."

The rice growers in Krasnoarmeyskiy Rayon are following the same path. The 1st secretary of the rayon party committee, A. Kudinov, has for a long period of time waged a battle against an excessively high degree of weediness and he has appealed to the consciences of the combine operators, leaders and agronomists. Why should one third of our grain consist of chaff? Words did not help. A different solution was reached. Since the rice was not being used for forage purposes, a condition was established: a bonus would be issued to those who sold more white grain per hectare. The Krasnoarmeysk Gosplemzavod achieved a yield of 50 quintals.

Unfortunately, the hopper weight continues to hold sway on many rice producing farms just as in the past. This problem also exists in connection with the production of sunflowers, corn, peas, soybeans and alfalfa and clover seed. The percentage of waste materials for which machine operators and specialists are being awarded incentives in the form of rubles is increasing on some farms. Is this correct? Would it not be better to praise those into whose granaries a truly gold stream of grain is pouring?

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## POLICY, ORGANIZATION

### IMPROVEMENTS IN CONSUMER WELFARE INTRODUCED

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 11, Nov 86 pp 90-96

[Article by O. Sayenko, department chief of NIEI [Scientific Research Institute of Economics] at the USSR Gosplan: "Rationalization of Personal Consumption"]

[Text] The population of our country has undergone several appreciable changes in level of well-being in the time of the Soviet system and construction of a socialist society. A simple listing of the quantitative changes in living standard indicates the new state of affairs. As a rule, this is associated with the resolution of some problems and the appearance of others. For this reason, the appearance of new problems in the area of the national well-being is often the result of or a phenomenon accompanying the resolution of former problems.

In this connection, there is a natural change in concept of growth in well-being as a result of changing socio-economic conditions related to level of development of productive forces and closely related changes in nature of production relationships and other relationships and to escalation in social needs.

Without dwelling in detail on the growth stages of the national well-being in the USSR, brief mention may be made of the following important landmarks. Termination of the rationing system in the 1930s and again in the 1940s as a result of accumulation of the necessary commodities and organization of unrestricted sale of basic foodstuffs and nonfood items. The change to massive residential construction at the end of the 1950s; reinforcement of the role of monetary income earned by performing labor or paid out of public funds, with increasing benefit for low-income families, which gave rise to a change in orientation of effective demand, primarily initial satisfaction of household demand for durable goods. The effort made in the second half of the 1960s to improve the national well-being and elevate it to the status of a primary task of the 9th and all successive five-year plans made it necessary to effect a substantial increase in volume of resources earmarked for social development and improvement in living standard.

In only 1971-1985 real per capita income rose by more than 1.6 times; average monthly wage of blue and white collar workers, from 122 to 190 rubles; income of kolkhoz personnel working in the public sector, from 75 to 153 rubles; and

payments and benefits made from public consumption funds, from 263 to 530 rubles. As a result, effective demand developed dynamically, with constant change evident in its structure.

Much was accomplished so that the agro-industrial complex, consumer goods production, residential construction and commerce and the service sector could function in harmony with the growing and financially-backed demand of consumers. In 1985, gross agricultural production exceeded that of 1970 by 1.25 times; output of light industry items, by 1.6; production of common, personal and household goods, by 2.9 times. Improvements were made in merchandise selections and in their consumer features. In the period 1971-1985 residential housing construction amounted to 1.6 billion square meters of living space, with advances made in apartment quality and convenience. The total volume of retail goods turnover for state and cooperative commerce and paid services rendered the populace in 1985 exceeded by more than twice the 1970 level.

All this has led to another qualitative landmark in the development of personal consumption, which is characterized by attainment of a state of stable material sufficiency, a growing process of shifting to satisfaction of increasingly diverse and dynamically developing requirements, and mounting demands for selection and quality of individual goods.

Unfortunately, these indisputable attainments have been accompanied by certain negative processes and also by insufficiently responsive resolution of problems arising as a result of reaching another qualitative level. The system of planning and organizing goods production, commerce and services was not prepared properly in advance to deal with the changing social situation; the style and operating methods, which were developed during the period of acute shortages of goods and services, were slow to change. The situation was complicated by a previous accumulation of elements related to lack of balance between supply and demand due largely to shortcomings of distribution arrangements; absence of necessary control over effecting the planned ratios of personal income growth to availability of goods and paid services; and by spontaneous income redistribution among the populace (speculation, rendering of services by individuals, etc.).

This entire complex of complicated problems was put in proper light at the 27th CPSU Congress. Measures have been developed recently to effect changes in management, planning and economic motivation in the agro-industrial complex, light industry, and commerce, with the intent of enlarging commodity resources, mainly to bring about substantial improvement in commodity quality and variety in response to rising consumer demand. The struggle against all forms of non-labor income is being intensified.

In this regard, social sciences are faced with the task of developing concepts for growth of the national well-being in the coming period, including research into the nature of a genuinely socialistic type of consumption which would incorporate all the best features of our historic experience and simultaneously take into account the major strategic approaches to economic and social development as specified in the new version of the CPSU Program, in which the party has set the aim of attaining a new qualitative phase of societal development.



The principal feature of the prospective type of consumption is the labor nature of personal income under socialism, whereby distribution according to quantity and quality of labor (basic form) is supplemented by distribution from public consumption funds (free services and services rendered at reduced cost, pensions, assistance payments, stipends). Most of these incomes are part of the household budget (which, in addition to the above monetary incomes, also benefits from private subsidiary sources). Therefore, even with respect to the household budget, the household form of consumption will be typical for the majority of material items, while for two-thirds of services (health care, education, culture, etc.), the socially organized and free form will apply (although the features of the latter do not always coincide, such as in the paid and the social kind of consumption in public feeding).

Hence follows the important conclusion that goods should not be produced at prices that are beyond the reach of families whose members are highly qualified and motivated workers engaged in honorable work, which, for example, unequivocally dispenses with the question of desirability of selling jewelry items and similar goods costing tens of thousands of rubles. This also brings into play the question of setting the relationship between money obtained in an honorable manner on the one hand, and various goods and services on the other. The planning of production programs should include full consideration of the needs and interests of the populace of both sexes and of all ages; of persons engaged in various kinds of professional and amateur activities; and of inhabitants of individual areas, cities and villages. It is necessary to effect general availability of individual types of goods and services to all social groups of the populace by enlarging the price spectrum for the same categories of merchandise and by improving the forms of retailing.

Also of special importance is the question of improving the organization of joint consumption on the basis of continuing appreciation of principles of social justice. Here it is possible to cite the example of overcoming differences in servicing level in departmental and rayon service institutions. There is great promise for strengthening the collective principle of consumption organization in cooperative forms of property (houses, garages, small garden plots). In this case collectively-owned property can be combined optimally with the individual form of use (apartments, plots, etc.), as can be the rules of collective order, with healthy individual tendencies and habits.

The second important feature of the prospective type of consumption is continuing deemphasis of the development of certain material aspects and services in favor of forms which promote improvement in intellect, possibilities of becoming aware of the environment and strengthening of physical and mental health. This process will take place on the basis of more rapid application of the most modern attainments of scientific and technical progress to production of goods and services; which will bring about a substantial change in characteristics and use of the latter, with attendant fundamental changes in people's lifestyle. It is sufficient to reflect on the changes in lifestyle of millions of people brought about by television, automobiles and certain other goods.

Goods and services under socialism are produced for workers by the hands of workers. For this reason, society cannot be indifferent to the question of

the price to be levied on a particular level of consumption and the wisdom and economy of using material, labor and natural resources. The socialistic type of consumption is economical and rational. This is why the problem of improving the reliability, quality and economy of most merchandise items is approached so seriously.

Finally, the third important feature is a constant effort to overcome nonrational and socially damaging types of consumption (alcoholic, for example), and the reduction and elimination of negative influences of individual forms of consumption on the environment.

Thus, the prospective socialistic type of consumption should: be conducive to the formation of conditions favorable to maximum possible physical, cultural, spiritual and social development of the personality; be in tune with potential (stepped-up but actual) economic possibilities for this period; manifest itself in a form of distribution which will be conducive to the resolution of fundamental economic and social problems.

The question of differences between socialistic and capitalistic types of consumption arises. Their principal characteristics lie in fundamental differences between these two systems, as associated with: the presence or absence of private property relative to means of production, i.e., with exploitation of man by man; different degree of differentiation of incomes (whether moderate differentiation, as affected primarily by labor contribution under socialism, or excessive, as affected by the use of another person's labor under capitalism); and, finally, divergent aims of production development under these systems. Socialism rejects from the consumption model typical for the West all forms of consumption that are perverted or harmful to man.

There are goods and services which in their consumer characteristics cannot be determined unequivocally to be unacceptable to socialist society. Great importance attaches to the cost of an item and to its general availability or nonavailability to wide masses of the population. Socialism finds fundamentally foreign all elements of superconsumption and consumption for prestige value, which is the result of excessive accumulation of wealth by exploiting classes. Also unacceptable are wasteful forms of consumption (buying a new car every year, for example), which are imposed in capitalistic countries by advertising and massive advertising media, as fueled by the interests of manufacturing and commercial firms.

Socialism generates conditions favorable to delineation of long-term goals of consumption development (in the form of the so-called rational consumption norms and rational consumer budgets) and to a suitable style of production planning (while providing for sufficient flexibility for satisfying current consumer demand), employing economic and noneconomic levers to influence the consumer to rationalize consumption. The economic levers are selections policy, retail prices, consumer credit. The noneconomic levers are advertising, publicity, and education (applicable at times to socially harmful consequences of consumption -- alcohol; administrative measures are also possible).

In this connection, it is necessary to note that the normative approach cannot be properly compared to the "demand" (genetic, descriptive or problem-oriented) approach. The fact is that trends and phenomena of consumption and demand development determined by some methodical approach (surveys, economic process modeling) can be projected only to short time periods (1 to 5 years), when the process of simple influence of changes in quantitative characteristics ceases to exert an influence on a phenomenon and assumes a new qualitative level.

It often happens that opponents of the normative approach to consumption planning argue that companies in the developed capitalistic countries are guided by consumer demand and benefit thereby. This is a fairly outmoded idea. For several decades the concept of marketing has held sway over goods manufacturing and retailing in capitalistic countries. Underlying this concept is development of future goals for market development of a particular product, including subsequent organization of manufacturing, retailing, advertising, and service of the item. It is not uncommon for the consumer to be unaware that a particular item of merchandise is to be produced and that a company is relying on him to be a customer, under a plan prepared by the company to introduce the item to the market. Thus, goal-oriented production planning at the company level has been the practice for some time. The fact that a competing company can infringe on realization of the plan and capture the market is another matter.

The planned nature of social production organization under socialism makes it possible in principle to attain high end results more efficiently and economically, with a clear evaluation of the social, ecological and other consequences of extensive measures which may be taken, and it is conducive to conditions for employing scientifically-based goals for consumption development. In this regard, the task has been set for the period to the year 2000 to attain the level of scientifically-based rational consumption norms for a considerable variety of foodstuffs and basic nonfood goods, while with regard to the remaining goods the task calls for closely approaching this level. In addition, the normative approach presupposes mandatory researching of the volume and nature of current effective consumer demand, the satisfaction of which is of primary importance in the 12th Five-Year Plan.

There are other problems related to application of rational norms. This is a convenient but fairly fine and delicate instrument for future planning. Thus, the consumer satisfaction index (ratio of actual consumption level to the rational), as shown by simple analysis, can be improved not only by increasing the production volume of a particular commodity (the only proper approach) but also by decreasing the norm (which is not infrequently the case). This situation requires greater quality in development of needs, systematic refinement (in step with development of needs), and mandatory extensive interdepartmental discussion and approval by the State Expert Commission of the USSR Gosplan.

It happens that a particular norm is applied in an isolated manner in the system of establishing prospects for production development of a particular type of product (or service) without providing for all related conditions. This was the case, for example, in the development of capacities for producing cameras, when there was failure to provide for the manufacture of accessories and associated services.

Another typical example is small garden plots. As we know, the decision was made to assign yearly 1 to 1.2 million plots for use by citizens. The decision will be put into effect in the coming year by planning for complete demand satisfaction for basic types of locally-produced construction materials and for greater production of small houses to be erected at the garden plots. However, it is necessary to resolve problems related to attaining a rational level of transportation services, including privately-owned automobiles. Otherwise, the prospective program for developing collective gardening and orchard cultivation may be held up by remoteness of plots.

In laying the groundwork for the program of developing garden plot and orchard partnerships, the first use was made of the rational norm for providing citizens with a "second" house -- one in the country -- as developed in 1984 by the NIEI at the USSR Gosplan. The norm was written on the basis of a close relationship between distribution of garden and orchard plots and transportation development, including the private car.

Let us consider the state and prospects of consumption development for the most important commodity groups.

The USSR has long resolved the problem of providing the proper energy value of the personal diet: it presently is about 3,000 kilocalories per person per day, which even exceeds somewhat the rational level. The diet contains a larger proportion of products of highest value: meat, fish and dairy products, vegetables and fruits. Consumer needs are satisfied in the amount of: 90 to 97% with respect to important sources of protein such as eggs and fish; 75 to 80% for meat and dairy products; 60 to 70% on the average for vitamins. Thus, although there is general sufficiency of foodstuffs and even excessive consumption, (for about one-fifth of the population) there remain problems of insufficiency of vitamins, protein and to a lesser extent of fats.

On the basis of a stronger material and technical base and fundamental improvement in activity of the agro-industrial complex, the task has been set to attain by 1990 the per capita consumption of most important food products established by the USSR Food Production Program. This will provide a balanced diet with respect to the basic food constituents (protein, fats, carbohydrates).

There has been a significant increase in amount of clothing possessed by the family. According to estimates made by specialists, the average family possesses 65 to 70 items of outerwear and 18 to 20 pairs of shoes. In per capita consumption of cotton and linen fabrics, the USSR leads the USA, FRG, Great Britain, and France; in wool fabrics, it surpasses the USA, FRG, and Great Britain; in silk fabrics, it is ahead of the FRG; in footwear, it outdistances the FRG and France. The USSR measures highly in satisfaction level for hosiery -- about 90%, while knitted wear claims a significantly lower figure of about 50%. A result of this in the last few years has been a greater demand for new items, including quality and fashionable styles.

The process of initial acquisition of durable goods by families has largely concluded (these include television sets, radios, watches and clocks, refrigerators, washing machines, sewing machines, etc.). At the present time, every



third family has a tape recorder; every seventh family enjoys their own car or motorcycle (or motor scooter); and the process of growth in availability of these items is continuing. Air conditioners, small calculators and other new articles, which until recently were not in common use, have become items of acquisition. Athletic and leisure time goods are becoming increasingly available.

We are faced with the demand problem of replacing worn-out items and acquisition of accessories for goods already in use by consumers (for the dacha, car, etc.). This merchandise group is associated with stringent requirements for reliability and selection. We know that replacing an old item with a new one is reasonable only if the new item is indeed better in quality and consumer characteristics. According to estimates made by the VNIKS of

the USSR Ministry of Trade, 3 to 4 million rubles' worth of new common and personal goods are being offered every year, and the demand for these goods in the near future will increase by four to five times<sup>3</sup>.

Production of common, personal and household goods in the 12th Five-Year Plan should show a growth of almost 1.5 times. Problems of reliability and quality still remain, however. Manufacturing enterprises are now faced with the task of insuring that the guarantee period of technically complex common items represents a period of trouble-free operation, not the right of cost-free repair. Changes will be made in the management mechanism to accomplish this aim.

One of the most significant assets is a dwelling. At the present time 80 percent of the municipal population and virtually all of the rural population has a separate apartment or house. At the beginning of the 12th Five-Year Plan the total area of the average city apartment measured about 45 square meters. Payment for the apartment comprised less than 3 percent of the total household budget of blue collar and white collar workers -- the lowest index in the world. Nevertheless, questions related to housing remain fairly acute; apartment living space is insufficient; the number of rooms is unsatisfactory; utility rooms are not convenient (about 30 percent of apartments are being built according to designs of the 1960s); not all apartment buildings are equipped with all the necessary mechanical equipment and conveniences. Problems of providing housing for new families still exist. Thus, here also the quality and comfort problem is at the forefront.

In the 12th Five-Year Plan it is planned to construct residential housing in the amount of 595 million square meters. This is an appreciable accomplishment toward the goal of providing virtually every family with a separate apartment or privately-owned house by the year 2000.

A general trend evident in consumption development is growth in the share of the household budget of expenses for services with greater well-being. This share became stabilized in the beginning of the 1980s after a lengthy period of growth. A favorable influence is rendered by the fact that two-thirds of all services are provided citizens either cost-free (education, health care, some services rendered by cultural institutions) or under favorable conditions (housing). However, the demand for paid services is not fully satisfied. The average family pays about 400 rubles a year for all types of services, while

purchases of merchandise account for about 3,500 rubles, i.e., the ratio is 1 to 9.

The five-year plan includes for the first time in the development of paid services provision for an integrated national economic approach; it is intended to effect appreciably greater growth in paid services than in consumer goods. Thus, sales of alcohol-free goods will increase by more than a third, while paid services will show a gain of 1.5 times.

Research into consumption indices on a general national basis will not provide a complete picture if the degree of differentiation of well-being of individual groups of the population is not defined clearly. The country has virtually eliminated differences in consumption level and composition according to class. The level and composition of consumer budgets of similar groups of blue collar workers, white collar workers and peasants coincide.

Differences in consumption exhibited by residents of cities and rural areas are being overcome successfully. According to estimates made by the NIEI, in 1960 the consumption level for foodstuffs in rural areas was 67 percent relative to the city, and 70 percent for nonfood items, while presently the figures are virtually the same. The structure of expenses is also becoming equalized. In this regard, rural residents have spent more in the last few years in the acquisition of fabrics, furniture, utensils, and electrical items than city residents. However, this is still insufficient justification to consider solved the problem of providing goods to rural residents. Insufficiency of commercial development in rural areas is evident in purchasing behavior of rural residents, whereby they buy some of their groceries and up to 40 percent of their nonfood goods in cities, and in the larger savings accounts of rural residents (the average deposit in rural areas is almost 150 rubles greater than in the city). In this regard, plans have been drafted to effect improvement in living conditions of the rural population and promote further development of cooperative commerce.

Consumption levels in union republics have come much closer together. A direct comparison of per capita consumption indices by area cannot be made due to the incomparability of environmental, climatic and demographic conditions. It is the degree of satisfaction of needs, not consumption levels, which should be compared. In the light of such a comparison, it is seen that the maximum gap in consumption levels typical of union republic residents is 1.3 to 1.4 times. The five-year plan has provision for considerable increase in the economy and national well-being in all union republics and in every economic region, on the basis of continued intensification of all-union labor division.

Substantial changes have also come about in family income calculated for the per capita level. According to certain estimates, the decile coefficient for differentiating the gross incomes of blue collar and white collar workers was 3.2 in 1981. Consumption levels of low- and high-income groups also cannot be compared, since the consumers and families making up these groups differ. According to our estimates, the needs of low- and high-income families, as associated with size and makeup of the families, differ objectively by 1.5 to 1.7 times. An estimate of the true differentiation of consumption should be correspondingly reduced<sup>5</sup>.

The share of families with an income of 100 rubles and more per member per month rose from 4 percent in 1965 to 60 percent in 1985. By 1990 more than 50 percent of all families will be receiving an income above 125 rubles per member per month. Thanks to centralization measures, there has been a sharp drop in number of families receiving an income of less than 50 rubles per member per month. There will be virtually no families in this category in the 12th Five-Year Plan. The educational and cultural level of the Soviet people has risen and their interests have expanded. All this confirms once more that primary importance in future consumption development will be attached to problems of quality and selection improvement and demand satisfaction of various groups of the population.

In 1981-1985 the NIEI of the USSR Gosplan devised a methodology and compiled rational consumer budgets for the USSR population, union republics and individual population groups. Presented below is the structure of the reporting and rational consumer budgets for the USSR population (see table).

	1970	1984	Rational Consumer Budget
Total consumption for the population (excluding alcohol)	100.0	100.0	100.0
Foodstuffs	48.6	40.8	30.5
Nonfood goods	41.0	48.1	51.6
Fabrics, clothing, footwear	21.1	20.2	20.1
Furniture, comfort & common items	9.7	14.1	17.5
Other nonfood goods	8.2	11.4	9.4
Production-related common services	2.0	2.4	4.6
Nonproduction-related paid services	10.4	11.1	17.9

To attain consumption at the level called for by the rational budget, provide every family with a separate well-built dwelling, and effect the necessary development of branches rendering common services, it is required, as noted in the new version of the CPSU Program, to double the volume of resources intended to satisfy the people's needs.

Figures compiled for the rational consumer budgets for municipal and rural populations indicate that they should show little difference in purchasing power, although within the structure the differences are greater (in particular, in

the rural budget the share of expenses for foodstuffs should be somewhat larger, with nonfood goods claiming a correspondingly smaller share). The major consumption differences of rural and city dwellers will show up in selections of goods they require. These data must be taken into account in laying out the prospects for state and cooperative commerce development.

Rational budget estimates have been compiled for families of various sizes and make-up. Natural differences in needs of persons of the different sexes and of all ages and the influence of the known phenomenon of relative economy on expenses peculiar to large families lead to the fact that, calculated on a per capita population basis, the size of the rational budget for single persons and families consisting of 10 members can differ by a factor of two. Our estimates show that the rational budget for a pensioner's family should be 70 percent of that for a family consisting of a married couple of working age. Rational consumer budgets have also been compiled (i.e., set expenses estimated) for students receiving stipends at the various study levels -- VUZ's, tekhnikums, vocational and technical schools. All these estimates for various types of families and consumers make it possible to increase the validity of long-term forecasts of payments to be made from public consumption funds (as pensions, assistance, and stipends).

As noted in the Basic Directions, by the year 2000 we will attain the rational level of consumption of the basic food and nonfood goods on an average for the population. The ensuing period will see the resolution of the task of attainment of this consumption level by all population groups (families receiving a relatively low income, young people, pensioners, persons residing in various areas). This will make it necessary to raise the average consumption forecast above that specified in the rational consumer budget.

The consumption development process does not come to an end with attainment of the present rational norms, due to the well-known law of demand escalation. In this regard, to increase the reliability of future forecasts of national well-being development, in the next few years it will be advantageous to refine the above norms on the basis of new conditions. With regard to traditional consumer items, major growth will be seen in further improvement of quality factors (degree of processing of foodstuffs, esthetics of clothing, user convenience and reliability of common and personal items, etc.). Special attention must be attached to new goods (video equipment, home computers, etc.). A considerable portion of consumption resources can be funneled into the service sector and housing construction.

Analysis of the changes that have come about in the make-up of national consumption, the tasks outlined in this area for the 12th Five-Year Plan, and of the developmental landmarks to the year 2000 is convincingly indicative of the consistency of effecting a high degree of economic development under socialism as called for in the plans and of substantial progress toward a new quality and standard of living.



#### FOOTNOTES

1. N. M. Rimashevskaya, "Structural Growth Changes in Consumer Trends (Results of Integrated Research)," SOTSIOLOGICHESKIYE ISSLEDOVANIYA, No 4, 1985, p 25.
2. We must keep in mind that the privately-owned car should not be made to compete with public transportation, since they differ in function. A car is acquired primarily for trips out of the city, rest and travel. In addition, the car and a second residence -- a country house -- are seen as a viable alternative to consuming alcohol during leisure time.
3. A. Orlov and D. Rubvalter, "Restructuring of Consumer Goods Production," VOPROSY EKONOMIKI, No 1, 1986, p 46.
4. VOPROSY EKONOMIKI, No 1, 1984, p 21.
5. "Statisticheskiye metody v issledovaniyakh truda, dokhodov i potrebleniya" [Statistical Methods Used in Research on Labor, Income and Consumption], Moscow, 1981, p 121.

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## FOOD PROCESSING, DISTRIBUTION

### NEED TO RAISE QUALITY OF BREAD PRODUCTS SEEN

Moscow *Ekonomicheskaya Gazeta* in Russian No 40, Dec 30 p 11

[Article by N. Dudorov: "The Bread Will Be More Tasty"]

[Text] Bread is as necessary to our lives as air, the only difference being, that it requires colossal and, in my opinion, incomparable expenditures of labor by millions of people. Not one family can do without it for even one day. This product provides man with one third of his calories. Bread covers 25-30 percent of the protein requirements and one half of the requirements for carbohydrates, Group B vitamins and phosphorus salts. In short, bread is irreplaceable. It will always be a component part of man's ration.

It bears mentioning that the problem of supplying the population with this product was solved long ago. Its production conforms fully to the requirements. But why then are we presently encountering such lively discussions regarding baked products? Yes, there are problems here and serious ones at that. Here I have in mind not so much an increase in the production of these products, but rather the types of bread being made available on the counters and their consumer qualities. And at the moment they leave a great deal to be desired. Indeed, it was by no means an accident that the Politburo of the CPSU Central Committee, in connection with numerous wishes expressed by workers, recently examined and approved proposals for improving the quality of baked goods and macaroni products. What brought this about? Why was a special decision needed?

Initially, I would like to give one detail that is of some interest to the readers. The enterprises of Minkhleboproductov /Ministry of Grain Products/ are presently producing 65 percent of the bread, Tsentrsoyuz /USSR Central Union of Consumers' Societies/ is producing approximately 30 percent and a small quantity is being produced by enterprises of other departments. Roughly 300,000 individuals are working in the baking and macaroni industry alone of the Minkhleboproductov system. The system includes 2,400 bakeries. Throughout the country as a whole, 30 million tons of various types of bread are being produced.

It cannot be said that nothing has been done within the branch to improve the quality and expand the assortment of the products. At the present time, up to 800 types of bakery and bagel products are being produced throughout the country. Their assortment was renewed during the 11th Five-Year Plan.

Nevertheless, a trend has been noted in recent years, in a number of areas, towards a reduction in the consumer properties of baked goods and this has aroused fair criticism among the population. First of all, many complaints have been registered regarding their quality. And this was quite proper. What is the problem? Here there are many causes.

In addition to technological violations, a deterioration in quality and an incomplete assortment of products, there has also been a low technical level for production and a weak logistical base for enterprises in many regions of the country. Up until recently, the machine building plants of Minlegpishchemash /Ministry of Machine Building for Light and Food Industry and Household Appliances/ had not mastered the equipment for organizing automatic and completely-mechanized lines. The production of rolls, buns and other small products is being carried out on individual items of equipment involving the use of manual labor. Low equipment reliability, inadequate delivery volumes for new equipment and especially dosing devices are creating additional production difficulties.

Certainly, there are enterprises throughout the country where use is being made of improved equipment which makes it possible to achieve high production indicators. There is Bakery No. 22 in Kuntsevo, the Cheremushki Experimental Baking Combine in Moscow and a number of others. But completely mechanized lines are being employed at these facilities only in connection with the principal production operations, since the dosing units have serious shortcomings. On the whole, a great amount of work remains to be carried out in the country's baking industry in order to raise the branch's technological level, so needed for carrying out the measures planned for improving the quality and assortment of the products.

Up until now, we have discussed the technical re-equipping of the branch. But there are also other factors which are adversely affecting the quality of the products. In particular, inadequate resources for some types of raw materials and other materials and their failure to conform to the requirements are adversely affecting the branch's final product. For example, a considerable amount of wheat is being used at the present time that has low gluten content and quality. The enterprises are not being supplied fully with wheat flour of a high grade, or with fats, sugar, malt or dried grapes, required for increasing the production of rolls and buns of a raised quality.

It must be stated that USSR Minkhlebprouktov has an efficient program of measures for increasing the production of high quality baked goods. We became convinced of this fact following a detailed discussion with deputy minister Nikolay Terentyevich Chubenko and staff specialists. An all-round program has been prepared for branch development during the 1987-1990 period. In it are reflected all of the measures for improving the quality and assortment of products and also the plans for the construction and modernization of enterprises and for raising the technical level of the production operations.

In the near future, the plans call for a substantial change to take place in the assortment of products being produced, in the interest of increasing the production of those products which are more in demand and which have a raised food value and improved consumer properties. The production of bread from high grade wheat flour and also rye varieties of flour of improved milling will

be increased by not less than twofold. A decision has been handed down calling for the production of rolls and buns to be increased to 20 percent of the overall volume of bread and baked goods being produced. The production of bread using dairy products will amount to not less than 18 million tons.

The plans call for work to be continued in connection with standardization and eliminating from production those varieties having inadequate consumer properties. First of all, the plans call for a reduction in the moisture and salt content in shaped varieties of bread, since this will raise its nutritional value. This will require the expenditure of up to 500,000 additional tons of grain, with the expenditures of bakeries amounting to 100 million rubles annually. Subsequently, the plans call for organizing the mass production of six new varieties based upon the use of improved recipes. Included among them will be three varieties of bread obtained from a mixture of coarse rye flour and 1st quality Rossiyskiy, Stolichnyy and Darnitskiy wheat flour. Despite the fact that the assortment of baked goods has constantly been renewed, it has never included analogs of such a flour mixture having such taste qualities.

In addition, a white bread, shaped and made in the hearth from wheat flour of high, 1st and 2d grade quality is being recommended for introduction into operations. Baked in accordance with a new technology, this bread is distinguished by a light texture and by a protein content that is raised by a factor of 5-7.

It is fully understandable that with the overall volume of bread production remaining unchanged, the introduction of new bread varieties, as always happens, brings about a reduction in bread production based upon use of the usual recipes.

Certainly, the introduction of improved varieties and improvements in the assortment of baked goods assumes the allocation of additional flour resources of improved quality, baker's yeast and other raw materials. As the saying goes, nothing is produced from nothing. A serious reorganization is needed in the milling industry. Large-scale measures must be carried out aimed at rapidly increasing the production of high grade wheat flour, the production of which will increase by more than twofold by the end of the five-year plan.

Overall, more than 1.2 billion rubles will be required for carrying out the above-mentioned all-round program for improving the quality of products and their assortment, associated work concerned with the construction and modernization of enterprises of the Minkhleboproduktov System and also for the carrying out of other measures. Commencing in 1987, new and raised wage rates are being introduced for bakery industry workers and an increase will also take place in the additional payments for nighttime work. This will promote the retention of personnel in this branch and bring about an increase in their skills.

It bears mentioning that bakers perform difficult work. They work three shifts and production continues even on weekends and holidays. Indeed, there is always a requirement for bread. But for one reason or another, sufficient importance is still not being attached to the work they perform. It is sufficient to state that the average wage for bakery workers is considerably lower than that for industry on the whole. Not enough housing is being built

for them and other social measures are being implemented very slowly. This has lowered the prestige attached to the work performed by bakers.

Thus the state must spend a considerable amount of resources in order to ensure that the store counters are stocked with greater quantities of better quality baked goods.

Nor is it a secret that the prices for baked goods in our country are very low. Traditionally, they will continue to remain low even after implementing all of the measures mentioned above for improving the quality and assortment of the products. On average, the price for 1 kilogram of bread will be raised by only 4.5 kopecks.

It is noted that at the present time the profitability of enterprises of the baking industry is very low. The average profitability for bakeries is only 7.3 percent. For some types of bread, they even sustain losses. Thus, for rye bread it amounts to 7.7 percent and for wheat bread -- 11 percent. Rich biscuits are also unprofitable.

But the state has not assigned the task of ensuring that this product of primary need -- bread -- produces a high profit. Moreover, when one considers all of the additional expenditures associated with the tremendous subsidies being given to those industrial enterprises which supply the rural areas with equipment and fertilizer and the reduced prices for the electric power consumed, then the losses borne by the state for the production and sale of bread become quite clear in the final analysis.

Improvements in the quality of the baked goods constitute a comprehensive task. It must be solved by the farmers, millers, bakers, machine builders and by store salespersons. It requires the use of additional high quality raw material resources, a radical technical re-equipping of enterprises and improvements in the organization of trade. All of this will promote the successful carrying out of the country's Food Program.

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## GOODS PRODUCTION, DISTRIBUTION

### NEW INCENTIVES FOR OUTPUT QUALITY IN FOOTWEAR EXAMINED

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 9, Sep 86 pp 56-61

[Interview with I. A. Benin, director of the Pirmays Mays Association in Riga, Latvia, by L. Shchennikova; date and place not specified: "Product Quality Improvement in the Footwear Industry"]

[Text] At the 27th Party Congress and the June (1986) Plenum of the CPSU Central Committee the problem of effecting a substantial improvement in quality of manufactured goods was given special attention. It was pointed out that the national economy is suffering large material and psychological damages due to design shortcomings, deviations from standard technology, use of low grade materials, and poor product detail. Adverse effects are felt in accuracy and reliability of machines and equipment and in consumer satisfaction relative to goods and services.

The CPSU Central Committee and USSR Council of Ministers have recently passed the special decree "Measures for Effecting Substantial Improvement in Product Quality", which set the goal as early as the 12th Five-Year Plan of attaining a breakthrough in improving domestic products and determining ways for practical realization of the Party Congress aims relative to a concerted effort to intensify production and resolve social problems.

The struggle for better product quality is the primary duty of every labor collective and of all managers, specialists, and laborers.

The following is a discussion of work related to product quality improvement being carried out in the Pirmays Mays association (Riga). The questions, prepared by the journal's editors, are answered by I. A. Benin, general director of the association.

[Question] Igor Abramovich, as we all know, the problem of improvement of footwear quality is one of the most pressing in light industry. Its resolution

would go a long way to reducing unsatisfied consumer demand. What are the causes of this situation and what must be done to eliminate them?

[Answer] Footwear manufacturing enterprises often do indeed produce inferior products. There are many causes -- some not due to the manufacturers, others directly related to footwear production proper.

What is quality footwear? This is footwear made with accuracy to be beautiful, fashionable, practical, hygienic, convenient to wear and soft. Let us begin with raw materials. Do they satisfy these requirements? Unfortunately, they often do not. Available leather often has cracks, scratches, holes and cuts, and is poorly tanned and coarse. Leather quality depends upon the way cattle are fed. Leather is often ruined by bites of insects, especially gadflies. The bites often do not heal, especially in the case of cachectic animals, with holes appearing in the leather. All this must be the object of attention. There is a reason why in a number of countries some cattle are raised specially for leather production.

The processing of leather is also not always satisfactory. Leather was previously tanned by means of whale oil, while now special chemicals are used, but their quality does not always make it possible to obtain the required result. This means that it is also necessary to develop the respective branches of the chemical industry.

Even though it may be excellently tanned, leather is considered to be of good quality only if it possesses a good color, i.e., black leather must be indeed black, without a gray deposit, and white leather white, not dirty gray. Current fashion calls for rich and bright tones; the dyes used often produce dull and inexpressive shades.

Complementary items and accessories also are not responsive to the demand. We know that the appearance of an item is often spoiled by simple things such as crude clasps and buttons, ugly laces, etc. Start-up production and retooling for production of new raw materials are slow. For example, a large amount of polyurethane sole material has finally become available. However, this kind of sole has already started to go out of style, but we are forced to accept it, since sufficient supplies of other modern sole materials are not available.

Also unsatisfactory is the quality of many types of equipment produced for the footwear industry. It does not always make it possible to be responsive to the demands made by consumers.

However, all this of course does not mean that all involved are guilty except the footwear manufacturers. High quality products can be made only if all services in a footwear enterprise operate efficiently and the manufacturing process proper is organized efficiently to exclude idle time and rush work, while maintaining ideal conditions for production. All this is often lacking. Much has recently been said, and completely justifiably so, of the need for increasing the material incentive of workers for the attainment of particular results. However, not less important is the promotion of proper production conditions and the awareness that one must not do poor work, while encouraging people to do good work.

Production organization and molding the proper attitude in the collective depend greatly on the enterprise manager and party and social organizations.

I have already mentioned the unsatisfactory quality of many types of equipment. However, highly efficient equipment, including imported equipment, is in place in footwear factories. The fact that equipment purchased with hard currency often is not utilized to the fullest or sometimes simply stands idle in warehouses is well known, but that is another story. The problem also includes the fact that imported equipment must be successfully integrated into the overall technological process. For example, in the Pirmays Mays, technology developed by specialists employed at the association has incorporated imported equipment into the general production line and "tied in" its technical parameters to all the other equipment. As far as I know, this kind of work is not being done at other footwear factories, with the result that full equipment application potential is not realized.

To satisfy customer demand completely, in addition to producing attractive and fashionable footwear, it is necessary to offer a suitable selection. For the winter the customer needs winter footwear, for the summer, summer footwear. We know that while shopping we often see sandals for sale in a store in winter, while in summer the store offers boots. In the Primays Mays, starting in October all the shops produce winter footwear; in February, spring wear; in May, summer goods; and in August, footwear for autumn. This is of course associated with certain difficulties, since it is necessary to retool quickly several times a year. To accomplish this, there should be special services at the enterprise. We have a machinery and repair shop with 150 employees, i.e., in size, this is a small enterprise. In the near future it will be made even larger. This section makes it possible for us to retool quickly. In addition, the machinery and repair shop workers develop all the technological procedures for mainline production. Machinery and repair sections in many footwear enterprises are very small and their work is limited to routine maintenance of equipment.

[Question] What measures would assist in strengthening personal involvement of each production worker in quality improvement?

[Answer] It is necessary to establish the closest possible bond between the result of labor, which should be evaluated directly by the customer, and payment for labor. In my opinion, this could be furthered by introducing a brigade quality stamp, for example. If goods bearing this stamp are sold quickly and are in demand by customers, this would mean that the brigade members should be paid a larger bonus. If goods are defective, not only should there be no bonus, but definite fines should be levied on those found guilty. In this case, consumers are deprived of needed goods and, in addition, there is a loss of raw materials, resulting in a total waste of labor on the part of many persons.

[Question] The problem of quality improvement obviously cannot be resolved without setting up effective control. Since an enterprise does not always make an effort to ascertain its own mistakes during product delivery, is it

possible that there should be set up in light industry acceptance committees made up of persons who are not directly connected to the interests of an enterprise?

[Answer] Product quality control in light industry should be in the hands of parties interested in quality control, which in this case would be the manufacturing enterprise and commercial organizations. Control entrusted to another committee would hinder the changing of selections. We know that the major criterion for product evaluation is satisfaction of the GOST [All-Union State Standards]; they are changed exceedingly slowly. This means that it is necessary to interest the committee in effecting quick changes in provisions of a GOST, i.e., some kind of additional economic mechanism should be organized. I do not believe that all this would promote improvement in this matter.

We have an operating originator's control, a product quality control section and commercial base control. Closer coordination of the interests of these elements would be all that is required to insure that stores are supplied with goods which are completely responsive to customer demands. The enterprise is interested in selling its output, and this means that it is also interested in quality. If this interest is increased and a more direct relationship established between sale of goods to consumers and profit for the enterprise, there would be no other control required.

Improvement in footwear quality and availability would be advanced to a great extent by revising the system used to evaluate quality. As I stated above, it is evaluated in accordance with the requirements of a state standard, which regulates all including the most minor details and parameters of goods -- width of stitch, number of seams, thickness of leather and insole, etc. For example, a GOST sets the leather thickness of domestic slippers without cushion at three times greater than that of similar footwear produced by foreign firms. The result is domestic slippers that are stiff and heavy; production of other footwear would mean deviating from the GOST. This of course is forbidden. Also, a GOST specifies that children's sandals must have a closed heel. We made sandals having two slits on the sides in the rear so that they would be more attractive, lighter and cooler to wear in summer. They were not accepted, since they did not satisfy the state standard. Nevertheless, when they were distributed to stores, they were in great demand. We produced children's boots in which the lowers were made of leather and the tops of soft and strong fabric (which also should be made of leather in accordance with the state standard), with the price adjusted considerably downward. The boots were light and attractive, but it required an entire year to effect a change in the GOST and obtain permission to sell this style. There are other examples.

It seems to me that state standards should regulate only the major parameters of items produced by light industry (machine building is another matter). An item should be evaluated against a standard model, a style approved by the Artistic and Technical Republic Council. Imported goods are rated on the basis of a standard style, and this does not adversely affect their quality.



[Question] You said that commerce is interested in high quality of goods. Why is low quality footwear still being shipped to stores? We know that they have the right to refuse it.

[Answer] Because commercial organizations also have "disinterest". They are provided with certain funds to purchase goods. If a commercial organization does not use the funds, they are withdrawn. For this reason, a commercial organization is obligated to purchase the goods being offered, even if the quality is unsatisfactory.

It is more advantageous for the commercial organization to reject the defective goods at a later time and return them to the manufacturer, since in this case the latter must supply other goods in the same amount (although there is no guarantee that the quality of the latest shipment is particularly better), with the result that the commercial organization retains the funds.

[Question] To satisfy customer requirements completely, it is necessary to know what the customer needs, what must or must not be produced. There has been much discussion of researching and considering consumer demand, but the results are not always satisfactory. What is the cause of this?

[Answer] Many organizations are presently researching demand. They are providing fairly accurate information on what is lacking, where and in what amounts. However, the main trouble is that demand is being researched for goods already produced. Forecasting of future demand is given little attention. As a result, it happens that goods which were in short supply a year ago and for which production was stepped up to meet the demand are no longer popular. Light industry, the footwear industry in particular, cannot operate efficiently, i.e., it cannot completely satisfy consumer needs, if it is not guided by scientifically founded forecasting which takes into account fashion changes and availability of new materials at least 2 years in advance.

[Question] How should price and quality be related? Is it always proper to stimulate quality via price? We know that it often happens that prices are raised but quality is not improved (or is improved very little).

[Answer] You have answered the question partially yourself. It is true that price and quality are not always related. Also, we know that inexpensive items, not only expensive goods, should be of good quality. There is a general feeling that the consumer is willing to pay any price for a piece of merchandise, since he has plenty of money and asks only that the merchandise be of good quality. But this is not so in reality. Price is of great importance to most customers. If prices are increased, we thereby decrease the possibility of purchasing a particular item, i.e., this brings about deterioration and not improvement in demand satisfaction. Also, prices should not be raised constantly to effect better quality. This can have negative economic and social consequences.

Paradoxical as it may seem, it is commerce, not the manufacturing enterprise, which is more interested in higher prices for merchandise. The enterprise sees a primary advantage in disposing of products, and additional profit from higher



wholesale prices is not particularly high. For the commercial organization, however, increasing the retail prices has the effect of bringing about a much greater turnover, i.e., this results in a considerable increase in activity index without any special effort on the part of the commercial organization, with the possibility of receiving a bonus for this, and other advantages.

[Question] Thus, once more the interests of commerce and industry do not coincide in the area of demand satisfaction. What measures would promote closer ties between them? Setting up factory outlets? Or perhaps establishing general indices for evaluating their activity, as, for example, for an enterprise to consider its products sold only when they have been actually acquired by the customer?

[Answer] In my opinion, factory outlets are only a partial solution to the problem. The results of operating this kind of store do not characterize the entire range of enterprise activity, since as a rule only the best products are shipped there.

With regard to evaluating the activity of an enterprise on the basis of final disposition of products, in my opinion, with the present organization of ties between industry and commerce, this would be improper. We know that industry has no effect whatsoever on final disposition, which, incidentally, is not always organized efficiently.

Let me cite an example. I entered a store offering our products. A customer asked a salesman the question: "Do you have footwear made of natural leather with a leather sole?" The salesman answered: "No, we are not supplied with that." I interrupted with "That cannot be. We know you have shoes made by the Pirmays Mays association, with soles made of natural leather." The salesman asked me: "How do you know?" "I work there." The customer bought the shoes. I went to the department head and asked why the salesman did not know the basic features of the merchandise, since they are listed in the descriptive literature. "We have not had time to make them known", he answered. The gist of the matter is not that there was no time: there simply was a lack of necessary interest. When representatives of our association, i.e., the manufacturers themselves, are on duty in a store, sales increase by 1.5 to two times. How do salesmen spend most of their time, especially in self-service departments? They watch that no one carries off merchandise without paying. Should that be the extent of their responsibilities?

Or, for example, in certain rayons of the country there are sufficient stocks of footwear, which lies unsold on counters, while in other rayons the demand is never satisfied. In addition, the commercial organizations do not have a responsive system for transferring the merchandise from one area to another. Also, this situation is repeated not only in rayons of the country, but also within a particular city. Thus, in Riga our products are in short supply in some stores, while in others there is more than enough. To transfer merchandise to another store, it must first be shipped to the wholesale base, then again distributed to stores, i.e., the disposal period is lengthened. In this time there may be a change in demand, as occasioned by end of the season, for example. Why should manufacturers pay the price of mistakes made by commerce?

If stores had direct economic and organizational ties to production, it would be a different matter. An enterprise which would not have to go through an intermediate link -- the wholesale base -- would be able to organize merchandise transfer from one rayon to another, since it would be interested in the most rapid disposition of goods.

It is necessary to look for organizational and economic forms of interaction between commerce and industry which would make it possible to tie together their interests. However, this is merely one aspect of the problem. It is necessary to create the proper conditions for manufacturing high quality footwear. Ideally, this can be attained by combining all links of the technological chain for producing footwear. This is understandably not a simple task. This approach presupposes an enormous organizational realignment. However, a manufacturing enterprise can be completely responsible for product quality only if quality actually depends upon the enterprise. In this regard, it may be of advantage for all manufacturers - those producing the raw materials and those making accessories and footwear proper -- to be part of a single technologically linked combine or association. In a word, this is something to think about.

Measures have recently been taken to expand the independence and raise responsibility of light industry enterprises. These measures are very timely. This is the most effective way to develop production and improve product quality. We know that until now manufacturers were so bound by various instructions and the need to coordinate every step and decision with numerous levels that their interest in any kind of innovation was diminished severely. In this regard, the "high levels" often cannot have complete information on the specifics of production and demand at particular locations, with the result that their decisions in particular cases are not always well-founded. For example, prices of new goods are agreed on by an enterprise and commercial organization on the basis of a multiplicity of factors related to production and marketing, but the Goskomsen SSSR [USSR State Committee on Prices] may not approve a price for simply subjective reasons.

In my opinion, the problem of raising the quality of consumer goods can be resolved only on the basis of expanding the rights of industrial enterprises relative to selection of definite approaches to handling the tasks before them; uniting their interests and those of commerce; and establishing a direct relationship between evaluating their activity and degree of satisfaction of consumer demands.

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## ELECTRIC POWER GENERATION

### SOLAR ENERGY DEVELOPMENTS IN KIRGHIZIYA

Frunze SOVETSKAYA KIRGIZIYA in Russian 5 Sep 86 p 3

[Article by V. Korchagina: "Reporting with a Problem": "Harnessing the Sun Beam"]

[Text] If we could concentrate the fire from the bonfires of all the shepards in our republic alone, along with the roaring flames of our industrial furnaces and the blue "blossoms" from our gas burners into a single fire, what a gigantic flame it would be indeed. This monster conflagration consumes each year not simply the rivers and mountains of fuel we feed it (six million tons of which are brought into Kirghiziya from other parts of the country). It should also reduce to ashes our naive faith that our Mother Earth contains inexhaustible reserves of anything and everything. The fact is, alas, that it is becoming more and more difficult and labor-consuming to extract our fuel supplies. And that our reserves of these fuels are not inexhaustible.

"Our republic could cut its consumption of electricity and organic fuels by ten per cent by using energy supplied by the sun, the wind and our small rivers," contends B. A. Botbayev, head of the Kirghiz energy research department of the USSR Ministry of Energy. "What would it take to do this? Perhaps the most important requirement would be for us to learn how to start thinking in a new way about things. Take, for example, the simplest solar power plants used to produce hot water. We have been suggesting and campaigning to persuade other senior officials to start building something like this. And what do we hear in reply? What in the world do we need this for? We've got enough irons in the fire already."

This is the fourth year now that the department has been studying the possibility and the advantages the republic could derive from going over to the use of renewable sources of energy and, among other things, building some experimental solar power plants.

"We haven't gotten into the development of any new structural designs here," Bolot Asanovich continues. "There's a lot of interest in this problem worldwide. And no small number of plans and designs have already been developed both here in our country and abroad. What we are doing is selecting and studying the economic validity and feasibility of designs which might be best suited and most efficient for our republic and then managing the construction of these facilities. The term 'manage' here may not be quite on target, though. Our senior scientists, Sh. Mavlyanbetov, N. Amanaliyev and Z. Adzhikeyev, and laboratory people have been able to get their hands on

literally tons of equipment.... And then over the course of our work we are also working out solutions to technical problems, which do arise in great numbers."

Republic plans for the Twelfth Five-Year-Plan period do call for the development of solar power. They call for the installation of 20,000 solar collectors (these are the nucleus of a solar power plant) each year. At this rate, the annual savings in organic fuels by the end of the five-year-plan period will be totalling 20,000 tons annually. Still not much as compared with what we are now burning to turn into heat, smoke and other by-products. But on the other hand, the deep river does have its source in the tiny creek or a spring somewhere. So this is a beginning. The sun is now heating reservoirs and taking the place of fuel oil and electric boilers in boiler facilities in altogether a dozen or so enterprises around the republic.

This year for the first time we are seeing solar power plants in operation on some meat and dairy farms on kolkhozes which have long since been known for being attuned to new ideas and alert to advantages to be derived from advances in science. These are the Kolkhoz imeni 21st Party Congress in Sokulukskiy Rayon and the Kolkhoz imeni Lenin in Alamedinskiy Rayon.

And just look what simple things they are! Upon arriving at the Kolkhoz imeni Lenin, our cameraman and his colleague had feelings of respect for the solar power plant ... as well as of some disappointment. The thing is in one way beautiful, a harbinger of things to come, a sign of changing times, and a symbol of economic and ecological thinking different from the thinking presently prevailing. And then in another it is not photogenic in the slightest. It consists of an extended plane facing to the south and tilted toward the Earth at an angle of 45° so as to be able to look the source of our light directly in its burning eyes for the greatest part of the day. It is comprised of individual collectors, flat metal boxes covered with glass. To liven up the picture with some human beings doing something to it or around it? That would be a little affected, for the fact is that the device is completely unattended—nobody has to do anything to it. When you need some hot water, you simply connect a pump to the base of the thing, which then drives the water through the collectors, where it is heated to 50-60 degrees.

"It's an outstanding piece of equipment," says Fedor Aleksandrovich Pazukhin, manager of the farm [MTF (meat and/or dairy farm)] here. "It's dependable, it doesn't make any noise and it's clean. We don't have any more hot water problems now. And we use it when we wash our equipment. Look, it's a little chilly outside now. We've just turned on the pump, and the thermometer already shows 30 degrees."

Sergey Mikhaylovich Peshkov, a mechanic at the farm, opens up one of the account books:

"Since June, that's when the solar plant was installed, electricity costs at the facility where it's been set up are down a third."

...The long brick boiler facility at the MTF on the Kolkhoz imeni 21st Party Congress has taken on something of a romantic and at the same time a puzzling look ever since a number of glass and metal panels were installed on the roof. The farm doesn't simply appreciate its new "solar furnace," it's fallen in love with it — over the course of the summer it did the work of three of the five boilers here.



A group of managers of housing and utilities enterprises and a number of other institutions were here recently to attend a seminar. Our senior departmental scientist, Shavkat Urumbekovich Mavlyanbetov, served as their guide during their visit. For one of his presentations he had prepared a highly persuasive speech complete with economic computations and excursions into the ecological field. But as it turned out, he didn't have to make this presentation. The chairman of the kolkhoz, Aleksey Vasilyevich Pak, and some of the workers on the farm began to hold forth enthusiastically and convincingly on the need to develop a "solar industry" everywhere and anywhere it would be to some advantage and not just sometime, but today. And with economic calculations that puzzled even the developers of the solar facility themselves. According to their computations, a square meter of the structure at the latitude of Kirghiziya would generate annual savings of 100-150 kilograms of standard fuel. Accordingly, the "solar furnace" in Sokuluk should be able to save the kolkhoz altogether some 30 tons of fuel oil which it can use for other purposes. But Aleksey Vasilyevich Pak was using a figure twice that.

The kolkhoz has also found a way to improve the efficiency of its solar power plant. Steam from the boilers used to steam the livestock feed is fed to the pipe carrying cold water to the solar collectors.

But now matter how much these stockmen have fallen in love with their solar power plant, these systems may already be a thing of the past.

"We have already discovered some of the drawbacks to these things," Sh. Mavlyanbetov says. "In the first place, an awful lot of metal goes into the standard collectors the Bratsk Heating Equipment Works makes, and they are heavy. Our department has suggested to the factory that it use plastic instead. This would be cheaper, and it would reduce the weight of the system by almost a third. Secondly...."

But these are technical details for the experts. The problem is that the power engineering research department still has virtually no material base for research and experimentation, nowhere to build its models. Engineers at the rayon division level within Kirghizselenergo working under their direction can build industrial units on fairly short order and find and remedy deficiencies as they go. But a way to improve something or do something better will commonly be found after a job has been completed. The solar power plants which are now being installed in greenhouses on the Issyk-Kul sovkhos Tamchi and in the city of Kara-Kul, in the electric boiler facility on Zhany-Talap kolkhoz in Naryn Oblast and in other places are going to represent improvements over existing models.

"Exploitation of the sun like this cannot be considered in isolation from other sources of renewable energy," contends B. A. Botbayev.

In the town of Rybachi, where the department is building an experimental area, will soon be built the first residential structure, whose heat and light are going to be supplied to the tune of two-thirds by the sun and wind, while plans call for the construction on the banks of Issyk-Kul of a full-service resort hotel for the Przheval'skiy Pedagogical Institute, which is being designed to be almost completely self-sufficient in energy — the "health resort of the future."



Solar power facilities have made no small number of friends in the republic. Among the most powerful are Agroprom and Kirgizselenergo. Everything the department has under way--solar power plants, microhydroelectric power plants and windmills, for example—are really and truly "manna from heaven" for agriculture. Feed-preparation facilities, farms, pasture corrals for the sheepmen and other type of facilities—these things are all scattered and isolated sites, places which are frequently hard to get to. Thousands of small-scale boiler units and tens of thousands of furnaces and ovens with their "microefficiencies" are now smoking away out there. Hundreds and thousands of kilometers of electric power lines run to our farms and housing units. But the sun, the wind and the small mountain streams are to be found everywhere. And they can help people ... if people can come to understand how to tap their good and beneficial power.

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## ELECTRIC POWER GENERATION

### NEW WIND-POWERED STATION STUDIED

Moscow MOSKOVSKAYA PRAVDA in Russian 7 Oct 86 p 3

[Article by I. Kovalenko: "Moscow Reporting": "Take Energy from the Wind"]

[Text] Work has begun on the design of a new type of wind-powered electric power plant.

It was almost a century ago now that H. Wells, the author of a famous textbook on biology and of even more famous novels of fantasy, turned his thoughts to the sources of energy people would be using in the year 2100. At first he mentioned only the sun and the wind, but then a decade or so later, and with remarkable intuition, he added yet another source — atomic energy. "There were giant windmills all over the top of the hill," wrote Wells.

Mills using the windmill were already grinding grain in Persia some 200 years B.C., and they were in use even earlier in China. Windmills made their appearance in Europe in the 13th century. Here their location and construction were regulated by acts of government. You couldn't plant any trees in the vicinity of a windmill, for example, so you would always be assured of a "free wind."

Aeolus, the wind, is a fickle, inconstant sort. Today we are seeing the opening of a new chapter in his "biography."

What in fact will be the nature of the power engineering of the future? Will it really be worth getting too involved with in an age of nuclear energy and giant hydroelectric power plants? The experts respond to this question in the affirmative.

Let's take a look back to the beginning of this century. The total output of all the windmills in Russia at that time was over 1 million kilowatts. The same figure for all the wind-powered devices in operation today is something like 1000 times less than that. One of the reasons for this situation is that wind power has been relegated to something of a subordinate role, that of supporting for the most part agriculture and consumers in remote, isolated areas. As a rule, these are populated areas remote from major population centers, farms, weather stations and field stations of one kind or another. As it has developed, the modern electric power grid has made the "wind" source of energy, at least in its traditional forms, unprofitable. Only one wind system is currently in large-scale production in our country. At average annual wind

speeds of 6-8 meters per second it can generate 2-4 kilowatts. The cost of the power this device produces will ordinarily not drop below 9-12 kopecks per kilowatt-hour. This system can be operated profitably only if other sources of energy in the particular area entail greater expenditures and if wind duration and intensity levels are adequate.

Let's take a look at a map of our country. The darkest areas are going to be those which are "rich" in wind. Included in this category is the entire northern coast line for a distance of several thousand kilometers. This means that the average annual wind speeds here exceed 6 meters per second. Wind-powered systems could meet the entire electric power requirement for these areas. The "windy" areas include Rostov and Volgograd oblasts, northern Kazakhstan, the mountains of the Crimea and the coast line along the Pacific Ocean. Inexpensive electric power can be generated in these regions. What are needed are simple, high-capacity systems which function dependably. Not to be forgotten here is the fact that the traditional systems, too, except in a modern configuration, will find their takers. But to focus only on the small wind systems, which contain large volumes of metal per unit of power and output, would be a mistake.

It was no coincidence that basic work on a project to design the first pilot facility of a new type was assigned to the Gidroproyekt Institute imeni S. Ya. Zhuk. The last few years have seen successful tests in the research facility here of a number of wind systems of the so-called nontraditional variety. They have an axis of rotation which is not parallel, but rather perpendicular, orthogonal, to wind speed.

What will the design of the future look like? The first wind-powered system reminds you of a giant letter "H" mounted on a large "column." Another design has two rectangles, specially designed blades forming the "sides," mounted on a metal shaft. Both of these systems can generate 1000 kilowatts. Plans call for them to go into operation in 1990. According to the computations of the experts, they will produce somewhere in the neighborhood of 5 million kilowatt-hours of power over the course of a year. And the plans have already picked a site for the "firstling" — Kuybyshev Oblast.

So the country's wind energy potential is going to rise some 5 million kilowatt-hours a year within the next four years or so. But to say that this will alter the overall picture substantially would be a complete exaggeration. The "wind's" contribution to the general energy fund will remain the miserly one it has always been. The introduction of new capacities at this pace is going keep wind power, just as before, in the back seat.

"Truthfully speaking, the systems which are going to go into operation in 1990," says Viktor Mikhaylovich Lyatkher, head of the dynamic studies department at Gidroproyekt, "will, in my view, already by that time be less than optimal in terms of their design. Despite that, the manpower available to the department just isn't adequate to enable us to force the pace of advance from the research and development on new types of facilities to industrial testing, not to mention large-scale production."

"And what is the department working on now?"

"A new system has been built near Makhachalka which is going to be taking some tests before too long. Take a look at this photograph. The thing that strikes you first about it is its unusual design, isn't it. Thirty blades have been mounted on a ring some 20 meters in diameter. We didn't make the blades specially, though. We got off some modern helicopters which had been written off an inventory. Airplane wings would even be good things to use on the larger machines. This can be done since the maximum aerodynamic loads on the blades on the wind systems are smaller than they would be on an airplane wing, while the level of risk permitted is higher. On top of that, we take finished, highly advanced materials, things which embody the results of the research done by several generations of aerodynamics experts and designers."

Six supports have been mounted with wheels from vehicles, which are connected to generators. Simplifying things here, what is happening is that the wind ring keeps the wheels in continuous rotation, which converts the energy of the wind into electrical energy, sort of reverse version of what happens in an automobile. In an automobile you have to expend energy to make the wheels rotate, but here the process goes "in reverse." Of course, the experts still have to fine-tune the design of the supports and the "running gear" here to insure the longest possible operating life and reduce losses to friction to the lowest possible. The blades in this system operate at a higher optimum speed than in the others. From the time when it passes the first, windward, blades until it reaches the blades on the opposite side of the ring, the wind has a chance to recover its energy. An advantage of no small importance this system offers is the relative decrease in the centrifugal force of inertia resulting from the increase in the radius of the track.

...The eye is not accustomed to the unusual design of these wind-powered machines. But as time passes, in many parts of the country which are "rich" in wind, they are going to become common sights on the landscape.

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## ELECTRIC POWER GENERATION

### CEMA MEETING ON RENEWABLE ENERGY SOURCES HELD

Ashkhabad TURKMENSKAYA ISKRA in Russian 14 Oct 86 p 3

[Article by B. Khalliyev: "Horizons of Science": "Allied with the Sun and Wind"]

[Text] Experts from nine countries took part in the Tenth Council of Comecon member states and the scientific-technical conference on the use of new and renewable sources of energy and the development of economical devices and equipment, which was held recently in Ashkhabad. At the request of the editors, N. S. Lidorenko, chairman of the coordinating center for renewable energy sources for the Comecon member countries and corresponding member of the USSR Academy of Sciences, discusses what Soviet scientists have accomplished in this field.

"Ecologically clean sources of energy are now finding application in agriculture, communication systems, electronic equipment, navigation systems, medicine and transportation. Solar, wind and geothermal power can make a serious contribution in addition to our traditional, conventional, sources of energy."

The Comecon countries have developed a common program to guide their development of new and renewable sources of energy, bearing in mind the fact that the plan is by the end of the second millenium to have created prototype systems which commercially will be of greater importance than the conventional systems employed today, which are not clean from the ecological point of view. And efforts in this direction are under way in many countries.

The objective of the current conference consists in an analysis of accomplishments to date and the preparation of plans for the period 1990-2000. Thanks to the first International Specialty Exhibition on Uses of New and Renewable Sources of Energy ever held in the Comecon member countries, which has now opened in Ashkhabad, we have an opportunity to familiarize ourselves with many developments reflecting advances in the fraternal countries in this field.

Attracting a great deal of interest here is a 1 kW solar electric power plant. This power plant embodies a great many of the latest engineering solutions patented abroad. What is unique in this case is the capability of generating electricity directly from the energy of solar radiation with an efficiency of 17 per cent by concentrating the sun's rays. This system reduces the cost of one watt of power to 5 rubles. This is still somewhat more expensive than the power generated by a hydroelectric power plant, but as compared with the 100 rubles per watt it cost 10 years ago, the reduction is substantial.





It should be pointed out here that regardless of costs which are high as compared with the traditional systems, devices for generating electric power can prove profitable even today in remote arid and semiarid areas which are far from the major power grids, and Turkmenistan would be an example.

"What can be said concerning the basic results of the last 10 years' work?"

"If during the first five years," N. S. Lidorenko continues, "we observed the crystallization of the potential and the requirements of each individual country, over the course of the last few years we have seen all of them development some direction in their scientific research. Another encouraging result has been the moves in the direction of joint, bilateral research: Hungarian-Soviet, Bulgarian-Soviet, German-Soviet. And then among themselves the fraternal countries have concluded their own bilateral and multilateral agreements. Soviet-Hungarian programs are taking shape which call for research in the field of thermoelectricity and the development of the Ikarus electric bus incorporating a Soviet electrochemical generator. Approval has also been given a program of cooperation between the Bulgarian Academy of Sciences and the USSR Academy of Sciences aimed at developing new current sources for transportation systems—electric carts and automobiles."

Cooperation between scientists from the USSR, the Czechoslovak SSR, Hungary and the GDR has resulted in the construction of a geothermal power plant, which is providing hot water to more than two thousand apartments in one of the cities in the northern part of the GDR. Scientists in the GDR are also studying ways to exploit wind energy. In this field, too, we have established an effective program of collaboration with experts of this country.

"We believe," Lidorenko observes, "that there are a lot of what we would call positive spin-off advantages to be derived from this kind of collaboration. For example, the thermoelectric generators have proven economically advantageous in systems of cathode protection against corrosion for gas lines. The Soviet Union has launched a major gas pipeline protection project based on this approach. This will make it possible to extend the lifetime of these rivers of gas many times, from which result we will derive huge economies."

"What directions in work on the development of renewable energy sources will emerge as offering the greatest promise?"

In the words of N.S. Lidorenko, "these would include chemical current sources, photo- and thermoelectricity and programs with the aim of exploiting the heat from underground sources and biomass. All these programs, which have been developed by the experts for approval at a joint session of Comecon, will make it possible for us to improve the effectiveness of our scientific research in the field of renewable energy sources."

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## ELECTRIC POWER GENERATION

### ADYCHANSKAYA GES PROGRESS REPORT

Moscow IZVESTIYA in Russian 30 Oct 86 p 1

[Interview with N. Kalchenko, chief, Yakutskenergo rayon power administration; V. Milyuta, chief power engineer, Yakutzoloto Association; and V. Filippov, chief, Yakut Main Territorial Administration, USSR Gosstab by IZVESTIYA correspondent O. Borodin, Yakutsk ASSR, time not specified; under the rubric "Events and Opinions": "Are We Going to See a GES on the Adycha?"]

[Text] The Deputatskiy Mining and Concentration Combine in the Arctic Region has conducted a full-scale test of its equipment, and the enterprise has produced its first batch of tin ore concentrate.

But today the miners face an energy problem of the utmost urgency. Back in 1980 what appeared to be an opportune decision was made to build an electric power plant in this region on a tributary of the Yana River, the Adicha. The Gidroproyekt Institute then undertook the engineering economic study validating the design and construction of the Adycha GES. The first crew of construction workers arrived at the mouth of the Adycha in the spring of this year. But things are moving exceedingly slowly. Why is this?

[N. Kalchenko] According to the decision of USSR Gosplan, the power plant is to be built on something of a partnership basis. During the current five-year-plan period two ministries, the ministries of nonferrous metallurgy and energy, are to contribute 100 million rubles each in support of preparatory operations. The Ministry of Nonferrous Metallurgy, however, has to date refused to contribute its share of the cost of building the new power plant.

The way things are now, hundreds of thousands of tons of petroleum products are delivered to this area each year for the diesel-powered facilities now operating here. The delivery system is very involved and very expensive. And the electricity this system produces is very expensive as well — from 7 to 11 kopecks per kilowatt-hour.

Electricity costs will soon begin to rise even higher: the rayon is growing very fast, and we are going to have to build more new diesel-powered plants to meet the needs of

Arctic enterprises for electric power. So any delay in the construction of the Adycha GES (and the cost of a kilowatt-hour here will not exceed 1 kopeck) will translate into greater and greater losses for the state. We here in the area are trying somehow to do something to force the pace of events any way we can. Vilyuy-gesstroy has organized the transport of the crews to the Adycha, and we have provided three diesels for the construction workers' camp.... But financing for the project has yet to be opened up.

[V. Milyuta] The years immediately ahead are going to see the far north of Yakutiya emerge as a major supplier of the country's tin. But the ores here also contain large amounts of other minerals, and complete and efficient extraction of these materials will make it possible to improve substantially the economic indicators of the mining enterprises here and make the vast mineral wealth of the Far North available to the benefit of the national economy. But any intensive exploitation of the ores here requires sources of power. Eighty (!) small diesel and gas turbine power plants are now in operation between the Yana and Indigirka. The total output of these facilities is inadequate to support the growth of the mining industry of the region, not to mention the development of all the other economic activities represented here.

Generally speaking, we could say that the enterprises in the Arctic region are now operating on the principle of a "natural economy," that is, each one builds the facilities it needs for its own purposes itself. But the fact is that the people in the Far North live and work with the objective of meeting national economic requirements! It's now high time to bring down the bureaucratic barriers here. This could only benefit things. Why, for example, should we transfer resources for projects such as hydro-electric power plants to different agencies when we are simply going to have to turn around and expend so much effort to squeeze this money out of these same organizations? Wouldn't it be simpler finance these projects centrally?

[V. Filippov] All the confusion and wrangling during the initial phase ultimately comes to have a particularly negative impact on our operations. Look at the situation we have here: the first crew of construction workers has already arrived at the site on the Adycha, but we don't know how much in the way of construction materials and structures and structural components to deliver to them tomorrow. The mistakes which have been made on dozens and dozens of other projects in the Far North are now being repeated here in the case of the present project! To date no thought has been given to the establishment of the transshipment facilities and storage terminals which will be required, or to the transport system we are going to need to get the tremendous number of shipments delivered up there.... The GES builders are planning to use the facilities built during the construction of the Deputatskiy mining and concentration combine, but these places are already to a great extent overloaded and would be unable to handle another entire flow of shipments properly or in the volumes required. The experience we have gained with these arctic construction projects is making it increasingly clear that we simply cannot cut costs during the preparatory phase of a project. Only strong and efficient supply systems and reliable transportation networks can help us eliminate unnecessary construction expenditures and conduct construction operations at the optimum level permitted by the technology.

... The people in the Arctic region of Yakutiya are now laboring under truly difficult conditions. But the economic development of this region must be pursued at an accelerated pace, for the

country needs the mineral wealth of the Far North badly. But what we have seen up there in the meantime is an attempt to stand one of the immutable laws of economics on its head, that is, that before you can start up any kind of industrial production you've first got to establish your power supply. So any delay of the construction of the Adycha GES is only going to aggravate what is already a difficult situation.

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## ELECTRIC POWER GENERATION

### TASH-KUMYR GES UNIT NO 2 GOES ON-STREAM

Moscow PRAVDA in Russian 2 Sep 86 p 1

[Article by PRAVDA correspondent Yu. Razgulyayev, Kara-Kul, Kirghiz SSR: "'Start-up' Ordered, On the Project Map"]

[Text] The 150,000-kilowatt second unit of the Tash-Kumyr GES has now come on stream. Kirghiz builders were able to complete this important project far ahead of the deadline specified by the plan. This success comes as a result of the implementation of progressive work methods, competition among subcontractors and a deep sense of personal responsibility for results.

Some four and a half years ago the crews of road builders and rock climbers were the first to arrive. Today, the first unit here has already generated more than 100 million kilowatt-hours of electric power for the national economy. A pretty good pace for the construction of an electric power installation.

"A 'workers relay' helps cut down the time required to start-up," we are told by G. Boldarev, secretary of the Naryngidroenergostroy administration party committee. "Collaboration among subcontractors is a very effective form of socialist competition."

The giant Ruslan cargo aircraft delivered the second turbine for the Tash-Kumyr GES, which had been built by machine-builders in Kharkov, ahead of schedule. But for installation to begin right from the time of delivery had required major efforts on the part of the concrete and metal workers and the assembly and installation people.

During this period of intensive work the crews headed by A. Kabayev, M. Sabirov and S. Fettayev demonstrated the highest level of competence we could want to see. They successfully met the challenges posed by the most difficult and critical phases of the project: the wall of the dam and the water conduits to the turbine. But despite the difficulties, they were able to exceed plan targets each day they were on the job.

The hydraulic and electrical equipment crews didn't wait for construction to be completed before they got their work under way. They began their preparations even before work on the plant itself was finished.

Practical experience has reliably confirmed the accelerated approach to the construction of a facility like this. For the first time in the country's history, crews of

the Spetsgidroenergomontazh administration working on the Kurpsayskaya GES were able to put a spiral chamber into final position not in sections, but rather in one, completely assembled unit. The gain — a month's time.

The large-unit construction and assembly approach has become standard practice among the assembly and installation teams as well. The crews headed by N. Gubanov and M. Pavlovskiy are now saving hours, days and weeks in the start-up operations.

The continuous method of construction employed is another factor in the success here. All stages of the process can be seen as plainly as the palm of your hand in the machine room. The first machine is already on line. The second is ready for operation, while installation work is in full swing on the third.

"This continuous process is an advantageous thing," explains L. Rutman, chief of the construction administration. "It helps us upgrade our work methods and procedures and at the same time cut back on completion times."

During its first test the new unit performed "with distinction." The operations people and the trouble-shooters spend a few shifts on the new turbine. And then — they start it up. Another, the nineteenth, unit in the series of power plants on the Naryn now starts to make its contribution to the fulfillment of five-year-plan targets.

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## ELECTRIC POWER GENERATION

### CONSTRUCTION BEGUN ON THIRD VILYUY RIVER GES

Moscow IZVESTIYA in Russian 7 Oct 86 p 2

[Article by IZVESTIYA correspondent O. Borodin, Yakutsk ASSR: "Third Phase of Series"]

[Text] "Give it up, Vilyuy, and make it quick!" — a chunk of rock bearing this inscription slid down the raised body of the BelAZ into the dark autumnal waters of the river, and with that the work on the dam began. This took place at noon October 6.

One after another the dump trucks emptied their loads into the roaring river until they had linked the two banks and the Vilyuy was flowing through an entirely man-made channel — a construction channel. And the honor of dumping the first cubic meter of rock into the channel was bestowed on V. Trenin, a driver for VilyuyGESstroy's Motor Pool No. 3. He had also worked on the first two Vilyuy power plants. He was now on his third.

This rock-fill dam is going to rise 59 meters high some 145 kilometers below the first GES at the Bolshoy Khan Rapids, which is famous for being the point at which the river suddenly crashes through a narrow gorge. So the new power plant is going to be built under some conditions that look pretty challenging from the point of view of the engineering geology involved. On both sides of the river one finds permanent ice embedded in the layers of silt and marl. But the people working on the Vilyuy are people with a lot of experience. The chief of the GES-3 construction administration, V. Voropay, for example, has worked on dams on the Bug, Dnieper, Volga and Angara, while crew foreman V. Mikhaylov has helped put up the dam at Krasnoyarsk and build the GES at Ust'-Ilimsk. So the 2000-strong construction force at work here on the Vilyuy is full of resolve to bring the new facility on line ahead of schedule. And the first step is complete — the Vilyuy has been dammed a full month ahead of schedule.

The new GES will have a design capacity of 360,000 kilowatts. When this plant comes on stream, the towns and settlements along the Vilyuy along with the diamond-mining enterprises in the region will have a new source of electric power, the shortage of which now is placing obstacles in the way of the industrial development of western Yakutiya.

Growing right along with the new hydroelectric power plant is the settlement of Svetlyy. Perhaps for the first time in the history of water works construction in

the Far North, a settlement has been begun not from a collection of tents, but rather from well-appointed housing units. Intensive work is now under way on the construction here of multistory stone structures. And there will soon be a large-panel housing construction facility in operation here as well.

The crews here have to get another 6 meters on the dam before the really cold weather and the floating ice are upon them. And then they have the winter to get the dam ready for its first high water. This is going to take an enormous amount of excavation and earth moving, so for this reason, work began on the dam just as soon as the river was blocked off.

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## ELECTRIC POWER GENERATION

### BRIEFS

**NEW KIRGHIZ GES**--Another hydroelectric power plant is under construction in Kirghiziya. The first residential structures are now going up on the site of the future workers' settlement at the foot of the mountains. A headquarters organization for the important Komsomol unit here is also taking shape. The head of the organization, Marat Isakov, is always on the move, morning til night—with the brigades, talking to the workers, organizing surprise inspections. [Text] [Moscow PRAVDA in Russian 30 Sep 86 p 3] 8963

**VAKHSH RIVER GES**--Under the title "Vakhsh River GES Project" on June 26 PRAVDA published an article which discussed problems which had been encountered in efforts to accelerate construction of hydroelectric power plants on the Bakhsh River. As the USSR minister of power engineering and electrification, A. Mayorets, reported to the editors, the USSR Ministry of Energy discussed this article and approved a decision to increase the planned figure for construction and assembly operations on the Rogunskaya GES project to 45 million rubles. In connection with this modification of the plan, the USSR Ministry of Energy also discussed the requirements of the Rogunskaya GES project for construction materials and has allocated an additional 8000 tons of rolled metal products and 15,000 tons of cement for the second half of the current year. Near-term plans call for the allocation of another 3000 tons of rolled metal. These allocations will insure fulfillment of the Rogunskaya GES construction plan in 1986. The question of the allocation of vehicles and machinery for construction of the Rogunskaya GES will be discussed during preparation of the 1987 plan covering materials and machinery. [Text] [Moscow PRAVDA in Russian 11 Oct 86 p 2] 8963

**KAZAKH POWER GRID EXPANDED**--Guryev (TASS)--Along with the new things for the holiday season, the stores-on-wheels have now delivered large shipments of color television sets, refrigerators and washing machines to the most remote livestock farms in the semiarid Embinskiy region of Kazakhstan. Linked to the national power grid here are seven sheep and camel farms as well as 40 winter sheep areas. Extending some 200 kilometers across the sand and the solonchak, the Kulsary-Kenaral electric power transmission line has been supplying inexpensive electricity to the houses, livestock barns, feed preparation facilities and artesian wells on three sovkhoses here. This is because on the eve of the October holiday celebration the Guryev machine column of the Yuzh-elektroselstroy Trust had fulfilled its annual plan for rural power line construction. Oblast power workers plan by the end of the five-year-plan period to have completed the electrification of the farms and facilities of most of the winter sheep maintenance centers in the northern stretch of the region along the Caspian. This will extend the overall length of the power line network here some 1600 kilometers. [Text] [Moscow IZVESTIYA in Russian 5 Nov 86 p 1] 8963



MINIATURE GES DESIGN--Cheboksary 15 Oct--The Energozapchast testing plant in the Chuvash capital has received an order not altogether ordinary for the people in the Volga region. The communication concerned the introduction of a new series of unique miniature hydroelectric power plants capable of a range of outputs. Looking forward to the availability of these systems are, first and foremost, those customers engaged in the "nomadic" vocations: sheep herders, geologists etc. The system is compact, light and economical. In no time at all it can be set up on a mountain stream, for example, or at a waterfall. If you can create your own gradient, the system could be successfully operated along any river in flat land. It can generate power sufficient to illuminate camping facilities and power refrigerators and television sets. It will also power the sheep-shearing tools used in the sheep camps. [By special correspondent Yu. Knyazev] [Text] [Moscow PRAVDA in Russian 16 Oct 86 p 3] 8963

TURKMEN SUBSTATION POWER DOUBLED--Krasnovodsk--Gasan-Kuliyskiy and Kizyl-Atrekskiy, remote regions of Turkmeniya, have been assured their dependable supply of electric power, and now, with a second transformer on line at the Okarem substation, this capacity has been doubled. Supplies of electricity to these regions used to depend on shipments of diesel fuel transported hundreds of kilometers to small-capacity electric power plants. So power lines were strung across the dunes and the substation built. And now, with this new increase in the substation's capacity, it is going to be possible not only to meet the electricity needs of the agroindustrial complex of the two regions, which is in the process of opening up vast new stretches of previously uncultivated land, but also to supply the Turkmenneft Association with the power it needs to step up the pace of its search for new deposits of oil and gas in this region. [Text] [Moscow SELSKAYA ZHIZN in Russian 10 Oct 86 p 1] 8963

ELECTRONIC EQUIPMENT TO BULGARIA--Control computer systems and other sophisticated equipment manufactured by the Chernovitskiy association Elektronmash is finding application in automated production process control systems. Electronic equipment bearing the Chernovitskiy label is now in operation, for example, in power units at Ignalinskaya, Zaporozhskaya, Khmel'nitskaya, Rovenskaya and Balakovskaya nuclear power plants. The Bukovinskiye equipment makers not long ago filled an order for the power engineering people in fraternal Bulgaria. They delivered six computers and seven production engineer-operator work station systems for the Kozloduy AES. Responsible for a major part of the assembly and testing work on this complex equipment were L. V. Ivanov, V. N. Melnikov and S. I. Bernik, test and control experts from Shop No. 2, programmer P. A. Gorin and design engineer M. I. Dyrkach, who travelled to Kozloduy. [By Yu. Kornev] [Text] [Kiev PRAVDA UKRAINY in Russian 1 Nov 86 p 1] 8963

NEW GEORGIAN GES UNDER CONSTRUCTION--Near the Georgian village of Khaishi up high in the mountains and not far from the Ingurskaya GES dam, work has now begun on the 740 thousand kilowatt Khudonskaya GES. The construction of a second facility on the Inguri represents another step in the direction of realizing the enormous electric power potential this river offers. The big arched dam here, which is going to rise 196.5 meters high, will ultimately consume over one million cubic meters of concrete. Work is now under way on the service roads, engineer communications and, up in the mountains, bridges and transport tunnels. [Text] [Moscow PRAVDA in Russian 5 Sep 86 p 1] 8963

POWER LINE TO KOMI FIELD--Komi ACSR--From Usinsk's central facilities to the new Baganskoye oil field--the "big power" has arrived. The Komienergostroy Trust has completed work on a new 35 kV power line some four months ahead of schedule. This energy bridge, built across the wild taiga and the swamps under tremendously difficult conditions, will help step up the pace of development of this new oil field, which has already sent tens of thousands of tons of "black gold" into the central part of the country. [By Yu. Kovrizhnykh] [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 21 Oct 86 p 1] 8963

POWER FOR CASPIAN OPERATIONS--Neftyanyye Kamni, 22 Oct--First of four generators of new gas-turbine power plant built on a metal platform here is now supplying power to this offshore oil field. The first unit will meet the current requirements of this large-scale operation completely. The remaining generators have been designed to meet future power needs, for the rich April 28 field farther out from shore for example. Worthy of note here is the fact that this gas-turbine plant is powered by gas extracted right here in this field. [By L. Tairov] [Text] [Moscow PRAVDA in Russian 23 Oct 86 p 2] 8963

KIRGHIZ GES CONSTRUCTION SETTLEMENT--Talas--Builders working on the Kambaratinskaya GES project have put in the first street for the settlement under construction for the power plant workers here. Attractive, well-built residential quarters have grown up on the waste land among the parched mountains here, as area almost devoid of vegetation. There are now seven of them, but there will soon be whole blocks of these two-story structures. "The barren mountains don't put us off," declares Ya. Tsoy, chief engineer of the Kambaratinskaya irrigation systems administration. "We are going to transform them. We are going to make them green." Yes, the GES workers here are not in the least intimidated by the prospect of having to go at it from the first peg. Thirty years or so ago we would have seen the same expanse of barren land around Kara-Kul. But now we see there a comfortable and attractive city. The crews working on the Kambaratinskaya GES are dreaming of building the same kind of place here, and the foundations for it have already been laid. [Text] [Frunze SOVETSKAYA KIRGIZIYA in Russian 5 Sep 86 p 1] 8963

ASHKhabAD OBLAST POWER CONSTRUCTION--Ashkhabad--The multikilometer LEP-110 [power transmission line] and the new substation which have been brought on stream not far from the settlement of Kaakhk in Ashkhabad Oblast are going to help bring the new lands along the Kara-Kum Canal into cultivation that much sooner. The electric power capacities will increase substantially the supply of electricity going to the field stations and farms here and link even the most remote areas of farms in the Kara-Kumy to the national power grid. Since the beginning of the year, the electric power workers of Turkmenistan have strung over 350 kilometers of power transmission lines of varying capacities in the rural areas here. [By SELSKAYA ZHIZN and TASS] [Text] [Moscow SELSKAYA ZHIZN in Russian 19 Oct 86 p 1] 8963

NEW VILNYUS TETS CAPACITY--(ELTA) 30 Sep--The second TETS-3 unit in Vilnyus has had final checks. The power engineers who are going to be operating the new facility here today received the state commission's certification allowing the unit to be brought on stream. To the country's unified northwestern power grid the new unit will add as much as another 1 billion kilowatt-hours of electric power a year and improve heat supplies for the new development areas of Vilnyus. "Our people had to solve some difficult problems to get this important new facility on stream on schedule," says

V. Ratkyavichyus, chief of the power plant's construction and installation administration. "We got the planning and design documentation late, materials haven't arrived on schedule, and right at the beginning some of the work fell behind schedule because we didn't have enough workers." Giving a great boost to the project under these conditions, then, was the initiative displayed by the construction workers themselves in learning and then taking over other job specialties and going onto a three-shift work schedule, as well as by the technical and engineering people, who were able to find no small number of ways to get things on track. Taking account of experience gained in work on the first unit at the power plant, they were able to draw up detailed work schedules based upon realistic assessments of the skills and capacities of the construction crews and outline steps aimed at improving the organization of operations on the project. [Text] [Vilnyus SOVETSKAYA LITVA in Russian 1 Oct 86 p 3] 8963

MAGADAN OBLAST POWER LINE--A new electric power "bridge" has now been brought on line which links the Arkagalinskaya GRES, the largest in Magadan Oblast, with the Yakut settlement of Artyk. This 178-kilometer line is a section of LEP-220 now under construction, which is going to be supplying power from the Magadan power system to the "cold pole," the administrative center of Oymyakonskiy Rayon. Plans call for the new line, which is ultimately going to be 291 kilometers long, to replace the old, lower-capacity line. This will help improve power supplies to the mining enterprises of Yakutiya. And in fact, the section of this high-voltage line now in operation has already made it possible to do this for the territory adjacent to it. For example, it has increased the dependability of electric power supplies to the Susumanskiy mining region of Kolyma as well as to a number of industrial enterprises, construction projects and sovkhoses in eastern Yakutiya. Ahead of the construction crews lie mountain passes, gorges, rivers and swamps. Aviation services in Magadan are going to be helping them storm these natural barriers. They are delivering power line supports and other loads suspended from helicopters on external slings to the steep mountain slopes, now covered with meter-thick snow, to sites which would be inaccessible to conventional means of land transport. The new "energy bridge" is being built as part of a program of measures aimed at developing the productive forces of the country's far northern regions. Over the course of the Twelfth Five-Year-Plan period it calls for completion of work on the Kolymskaya GES and construction to begin on another GES on the Kolyma River, the Ust-Srednekanskaya hydroelectric power plant. [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 16 Oct 86 p 1] 8963

DNIESTER GES--Chernovtsy--The combined Dniester GES and GAES [pumped-storage electric power plant] imeni 60th Anniversary of the Great October has now generated its two-billionth kilowatt-hour of electricity. What is remarkable about this is that the facility here continued to produce electricity while planned maintenance was under way on the third and fourth hydraulic turbogenerator units, work which was completed a month ahead of schedule. This success was made possible by the smooth and efficient functioning of the shops headed by communists A. Yepaneshnikov and F. Mikhaliuk. [Text] [Moscow PRAVDA in Russian 16 Sep 86 p 1] 8963

**TURBINE QUALITY CRITICIZED**--On June 16 under the title "A Blemish on the Reputation" PRAVDA published correspondence criticizing the work of power machine builders responsible for turning out machinery for the country's hydroelectric power plants which was defective. Criticism was directed specifically at the Leningrad Metal Works Turbine-building Production Association. As the general director of this enterprise, A. Ogurtsov, and the secretary of the party committee, V. Kondratyev, have reported to the editors, this correspondence was discussed at an expanded session of the party committee bureau and at meeting of the association's central commission on quality. The criticism has been acknowledged as justified. The decline in turbine quality was the result of inadequate development of design solutions, breaches of discipline from the technology point of view and unsatisfactory performance on the part of the technical monitoring service. Responsible for this situation most directly are V. Zharkov, deputy director of the Turboatomgaz works, V. Tsvilev, head of the association's engineering control department, R. Shults, chief of the production traffic control administration, and the managers of a number of individual shops. These individuals have all received both party and administrative punishment. The association has prepared and approved a comprehensive program of measures aimed at improving the technical level and quality of its products covering the period 1986-1990. A product inspection experiment undertaken by representatives of the State Standards Committee has been designed to help solve this problem. [Text] [Moscow PRAVDA in Russian 21 Aug 86 p 2] 8963

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## MOTOR VEHICLES, HIGHWAYS

### MINISTER ON MOTOR TRANSPORT PROGRESS IN UKRAINE

Moscow AVTOMOBILNYY TRANSPORT in Russian No 10, Oct 86 pp 10-12

[Article by P. Volkov, minister of motor transport Ukrainian SSR: "Reserves for Restructuring"]

[Excerpts] How can we implement the general policy of restructuring outlined by the 27th Party Congress better and more quickly, using new ways and methods? From this viewpoint today we are assessing the work of collectives of enterprises and administrations and those practical results with which they are approaching their holiday--Motor Transport Workers' Day. The ministry has fulfilled the state plan and commitments made during the 6 months of 1986 for all indicators at a level above that of the corresponding period of last year, both for volume and servicing projects and for technical and operations indicators. The output of trucks increased by 1.3 percent, buses--by 1.8 percent, and trailers--by 4.3 percent. The output of motor vehicles operating at a piece-rate wage increased by 4 percent in tons and by 6 percent in ton-kilometers.

Compared to the same period last year, the output of motor vehicles increased by 6.2 percent in the Voroshilovgrad Administration, 5.3 percent in the Dnepropetrovsk Administration, and 4.7 percent in the Donetsk Administration.

Having ensured fulfillment of freight shipments, motor transport workers of the ministry decreased freight turnover by more than 2 billion ton-kilometers compared to 1983 and reduced fuel consumption by 110,000 tons. Overall, transportation costs were reduced by 94 million rubles. The amounts of unfulfilled freight shipments decreased noticeably.

Upon discovering instances of normative technical speed between stops being higher than the standard and unfulfilled hours for motor vehicles operating on a time rate, an official investigation is being conducted jointly with people's control groups and customers of the motor transport and the motor transport enterprise; the volume of work of piece-rate and time-rate motor vehicles are compared. Only after doing this are the wages for the drivers charged, the fuel written off, and the settlement made with the customer.

Centralized freight shipments have increased, reaching 85 percent. This has been possible due to more extensive use of tractor-trailer rigs, containers,



pallets and equipment crates, effective planning and management based on unified technological processes (UTP) of the work of the drivers and enterprises served.

Thus, upon introduction of UTP at the Zaporozhye City Milk Plant No 1, the productivity of transport resources increased by 27 percent. Here 15 motor vehicles were freed and 35.5 tons of fuel were saved. Motor transport productivity at the Zaporozhye Meat-Packing Plant increased by 56.7 percent. Introduction of UTP at the Kiev Lumber and Paper Supply and Marketing Administration of the UkSSR Gossnab made it possible to increase output 2.7-fold, free 46 motor vehicles, and save 370 tons of fuel.

Similar results were also obtained at many other installations, where proper attention was given to introduction of progressive technology. I would especially like to emphasize that the introduction of UTP, as a rule, does not require additional capital investments. Joint efforts of those involved in the transportation process--transport workers and customers--make it possible to eliminate various difficulties and to organize an efficient, rhythmical conveyor line in the freight delivery process.

Improving the interaction of motor transport enterprises with other types of transport and sectors of the national economy served is one of the important transportation problems of the Ukraine. The intersectorial comprehensive scientific and technical program "Transport" has been developed and is being implemented in the republic for the current five-year plan (the lead organization is the UkSSR Ministry of Motor Transport). The program will make it possible to raise the quality of transport service to the economy and the population and improve the interaction and efficiency of all types of transport.

We are accomplishing centralized freight shipments and comprehensive transport-dispatch servicing of enterprises at 273 of the republic's railroad and motor vehicle stations, sea ports, river ports, and airports, where more than 60 million tons of freight are processed annually. Centralized shipments with freight processing under the direct "rail car to motor vehicle" variant exceeded 8 million tons, and shipments using exchangeable trailers exceeded 2 million tons.

Today a unified technological process has been developed by the Odessa Transport Center, which if fully introduced will make it possible to create a system of operation planning and freight shipment management based on coordinated use of information processed by the computer centers of related types of transport. This experience will be improved upon and employed in other transport centers of the republic in the current five-year plan.

The ministry is also interacting closely with organizations of the UkSSR State Agro-Industrial Committee (Gosagroprom). We dispatch 35,000-40,000 motor vehicles annually for hauling crops.

More than 2,000 integrated brigades, organized according to the experience of the Ipatovskiy grain farmers and the Yampol beet growers, work in the fields of the republic during the harvest season. In all grain and beet growing

zones of the republic, we haul the harvest by using large harvest-transport teams and links controlled from a single center according to time schedules calculated on computers and implemented by using modern communications equipment.

During this hauling we widely employ the shuttle method using turn-around trailers and semitrailers as part of heavy-freight tractor and trailer rigs, making it possible to reduce the idle time of transport equipment to the maximum extent during loading and unloading operations and to use it more efficiently directly for hauling.

We accomplish the entire complex of harvest and transport work using the unified technological process. Thus, in the zone of the Kagarlyk Sugar Refinery, Kiev Oblast, harvest of the sugar beet crop has been organized on a UTP basis by the continuous method, and hauling of it--by the shuttle method with KamAZ-5320 tractor and trailer rigs using two GKB-8350 exchangeable trailers. Control of the hauling process is accomplished by a single center equipped with an "Iskra-226" microcomputer and radio communications equipment. Timely and accurate information flowing over the circuits of this link enable the control center to make optimal decisions on a real-time basis. Thanks to this, the seasonal production of one motor vehicle has increased by 60 percent, and the cost of hauling the beets has fallen 12 percent.

But it is still too early to claim that motor vehicles are being used most efficiently in hauling agricultural products. Therefore, for the current five-year plan the ministry, jointly with the republic's Gosagroprom, called for a further improvement in the hauling of agricultural products during the harvest period based on a single centralized operations-dispatch guidance in each rayon, beet growing oblast, and the republic as a whole.

One of the important social tasks for motor transport is the further improvement of its work in the area of services. The ministry and motor transport administrations are constantly devoting attention to expanding the network of transport agencies and list of transport and general services performed. During the 6 months of this year, the volume of their fulfillment increased 17 percent. In a number of oblasts we have organized regular delivery of agricultural products to markets in passenger and freight vehicles equipped at enterprises of the sector. The volume of delivery of household items in containers has increased. The State Motor Transport Scientific Research and Planning Institute developed and introduced a model technology for these shipments. However, the quality and quantity of the services being rendered, especially in rural areas, still lag behind the demands of the population.

Improving interurban freight shipments holds large reserves for increasing efficiency and lowering transport costs. An analysis shows that for various reasons a considerable portion of these shipments are carried out by medium- and low-capacity departmental motor vehicles carrying a load, as a rule, in one direction. It is not organization of parallel utilization of these transport resources that is required, but the formation of efficient systems of motor transport and mixed interurban shipments. In doing this, it is necessary to examine traditional approaches to this issue. It was believed,

for example, that interurban shipments according to fixed schedules was the most progressive form of operation. This is indeed so when it involves affiliated deliveries with deadlines and volumes established in advance. The effectiveness of comprehensive delivery and shipment plans is confirmed by a great number of examples: delivery of engines from the Kharkov "Serp i Molot" Plant to the "Rostselmash" Plant, items making up a complete set from the Zhitomir Automatic Machine Tool Plant to the Kiev Automatic Machine Tool Plant imeni Gorkiy, and others. However, the demand for interurban shipments continually changes, and limited freight consignments are more prevalent.

The peculiarities of motor transport make it possible to form flexible servicing systems which are responsive to daily changes in the diverse demand for shipments. The basis here is the organization of a centralized control of shipments and systems for their continuous operations planning. This idea was effectively implemented in the operations of the Leningrad Transport Center, whose experience has been approved of by the CPSU Central Committee and become widely used.

Let us take, for example, interurban freight shipments in containers. The state plan of economic and social development of the USSR for 1986-1990 called for increasing shipments of packed and containerized freight 1.4-fold. We plan extensive development of interurban containerized freight shipments, envisioning a twofold increase in them. In doing so, we bear in mind that each freight consignment shipped in a container represents a low-efficiency departmental motor vehicle off the road and savings in labor and energy resources.

The demand for these shipments in the republic is determined by more than 15,000 enterprises which are suppliers of products. It is not possible to take into account their daily requirements for shipments using a rigid schedule.

Late last year, the newly created specialized directorate Ukrtranspekspeditsiya organized centralized continuous planning of motor vehicle container freight shipments by its own container fleet of various capacities. The orders for containerized freight shipments accepted by motor transport freight terminals, the network of which encompasses the republic's entire territory, are transmitted to the republic's central dispatcher service. During the period between shifts the workers of the central dispatcher service work up efficient traffic routes for large-capacity container tractor-trailer rigs and at the same time pass on orders for interurban shipments to motor transport enterprises.

The experience of organizing continuous operations planning of shipments shows that only in this way is it possible to satisfy most fully the need for shipments and simultaneously ensure their high efficiency. With an overall increase in the volume of shipments, the number of daily trips has been reduced, but the carrying capacity of tractor-trailer rigs has increased 15.7 percent. The use of capacity per run increased 0.3 percent; it was 0.945 in interrepublic traffic, and 0.913 in interoblast traffic. The time periods for freight delivery and container turnaround have been reduced substantially; regularity and safety of freight being shipped have also increased.

We are now working on the study of the dynamics of freight flow and on the development and forecasting of interurban freight shipments in the region of the Donetsk-Zaporozhye-Dnepropetrovsk-Voroshilovgrad highways. Based on this experience, suggestions will be prepared for forming a unified system of interurban freight shipments by common carrier motor transport in the republic. Implementation of this plan will make it possible to free about one-third of the resources allotted by the various departments for freight shipment and to lower transportation costs of the national economy by 20-25 percent.

This is an interdepartmental problem and must be solved jointly, but above all by the forces and resources of the ministries of motor transport of the union republics and the Gosagroprom.

We are working on creating a scientific-production association for a fundamental examination of the directions of scientific research work of the sectorial institute and other scientific organizations. Its main task is to ensure the use priority developments and reduce the times for introducing technical innovations into production.

Primarily, the main efforts are concentrated on converting motor vehicles to gas operation, developing binary engine fuel systems, and implementing the gas-diesel cycle. The manufacture of such motor vehicles, which are being used for carrying freight and passengers, has expanded sharply in the current five-year plan. Jointly with the UkSSR Academy of Sciences, the ministry has developed a comprehensive program of using compressed natural gas as fuel and called for preparation of the technical base for operating bottle-gas driven motor vehicles, formation of the optimal structure of bottle-gas driven rolling stock, and determination of the area of its efficient use. Implementation of this program will make a 18-20 percent savings in liquid fuel possible in the current five-year plan.

Stepping up the human factor in engineering activities of specialists will help the work of 32 centers of scientific and technical progress set up directly in production facilities and based on cooperation with scientists. These centers have already proposed resource- and energy-conserving motor vehicle thermos bottles, new anticorrosive preservatives based on waste petroleum products, and effective means of mechanizing labor. A sector system of prompt incorporation into production of effective inventions and innovative proposals (the "express-introduction" system) is functioning, making it possible to accelerate the small-scale mechanization of work places, equipping with other accessories and to resolve questions of making work places more efficient.

Comprehensive recycling of secondary resources and production waste makes it possible to organize at internal production capacities the manufacture of trailers, means of mechanizing manual labor, and accessories and tool from assemblies, parts and instruments from motor vehicles written off without using rolled metal stock and new complete set of parts for this. Using the unitizing principle makes a 60-80 percent savings in metal possible. An experimental model of a 7-ton two-axled dumping trailer based on a ZIL-130



chassis has been developed in the sector. In the near future there are plans to manufacture more than 2,000 of these trailers per year, which will make it possible to haul more than 7 million tons of freight and save 5,000 tons of metal and 30,000 tons of fuel, with an overall economic effect of about 2.5 million rubles.

There are also considerable other reserves for acceleration. Primarily, this involves improving the structure of sector management. This year we carried out the first phase, combining a number of freight and passenger motor transport oblast administration. These measures included further expanding the independence and responsibility of subdepartmental administrations and enterprises (related to the switch to new conditions of economic management in 1987) and introducing long-term (5-year) contracts for freight shipments.

We believe it advisable to introduce regulations on the discipline of motor transport workers. Work to ensure traffic safety must be intensified.

In the current five-year plan, common carrier motor transport has to increase considerably the quality of transport service to the national economy and the population and increase shipment volume by 16 percent, passenger turnover by 6 percent, industrial output volume by 9 percent, everyday services by 19 percent, and labor productivity by 8 percent. In order to fulfill these goals, production collectives of the sector need to consolidate the pace of the first year of the current five-year plan and make wider use of the available reserves for decisive restructuring and intensification of transport work.

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## MOTOR VEHICLES, HIGHWAYS

### MINISTER ON MOTOR TRANSPORT PROGRESS IN BELORUSSIA

Moscow AVTOMOBILNYY TRANSPORT in Russian No 10, Oct 86 pp 13-15

[Article by V. Borodich, minister of motor transport Belorussian SSR: "In New Conditions of Economic Management"]

[Excerpts] The collectives of Belorussian motor transport enterprises and organizations are celebrating the sixty-ninth anniversary of the Great October Revolution and their professional holiday in conditions of restructuring the work of the sector. Last year, taking part in an economic experiment, the ministry successfully fulfilled its plan goal for all indices. Four million tons of freight were transported and 500 million passenger-kilometers logged.

Beginning in January of this year, the ministry is conducting an experiment on improving planning, economic incentives, and production management. All enterprises are working under new conditions of economic management.

The main goal of this experiment is to meet more fully the freight shipment and passenger hauling needs of the national economy and the population of the republic based on accelerating scientific and technical progress, to improve the planning and organization of shipments, to develop the creative initiative of collectives, to increase their interest and responsibility in work efficiency, and to strengthen self-supporting operations.

The overall principle of economic management remains the same--converting the sector as a single production-management complex to complete self-supporting operations with guaranteed pledges for payments to the state budget; implementing expanded reproduction; carrying out social tasks and providing incentives to collectives through their own (earned) funds and sources; completely tying wages and labor incentives to end results.

Under the new economic management conditions, the rights of motor transport administrations, associations, and organizations of the Ministry of Motor Transport (MMT) in planning and economic activities have been expanded substantially. This is being done both through a system of planned indicators and of cost accounting relations with the budget and within the sector. Above all, the rights of enterprises and associations in using their own sources of financing costs have been expanded: the production development fund and the social and cultural measures and housing construction fund.

Motor transport administrations and associations have been granted rights to use the production development fund in carrying out measures for replacing fixed production capital, and if this is insufficient, bank credits as well: for financing costs to re-equip and modernize existing enterprises and production facilities;

--for costs to prepare and incorporate new equipment and advanced technology;

--for conducting measures to eliminate bottlenecks in primary and ancillary production, to increase labor productivity, to reduce costs of shipments, work and services, and to produce consumer goods.

The production development fund capital of motor transport administrations and associations are not subject to withdrawal and may be accumulated in bank institutions for conducting measures in subsequent years. Motor transport administrations and associations may receive the corresponding interest for unused funds.

Capital from the production development fund of motor transport administrations and associations primarily goes toward re-equipping and modernizing enterprises and is secured by material and technical resources. Re-equipping plans, which clearly determine what is to be done where, when, and at what cost, are developed for use of the production development fund of the motor transport administration and association.

It should be noted that the outlays which motor transport administrations and associations must make at the expense of the production development fund are provided for in the capital construction plans as non-centralized sources. Motor transport administrations and associations are granted the right, through amortization allowances for capital repair, to make additional outlays for re-equipping over and above the limits of state centralized capital investments.

Under the new operating conditions, the workers of motor transport administrations, associations, and enterprises have an added interest in increasing the quality of service to sectors of the national economy and in accelerating the rate of growth of scientific and technical progress. In particular, according to the results of the year, upon fulfillment of freight shipment quotas in accordance with concluded contracts and also for introduction of measures for new procedures and advanced technology, the supervisory personnel of these subdivisions may each receive double salary (for each direction). These bonuses are paid regardless of fulfillment of other indicators.

Motor transport administrations, associations, and production subdivisions are granted the right to increase the planned material incentive fund by 15 percent for timely and qualitative fulfillment of the customer plan in accordance with concluded contracts.

Motor transport administrations and associations are granted extensive rights in using the savings in the wage fund for additional and supplementary

payments to all categories of workers, including managers of motor transport administrations, associations, and other production units.

An important peculiarity is that enterprises, associations, and organizations of the BSSR MMT are authorized, with concurrence of the USSR State Committee for Labor and Social Problems (Goskomtrud) and the All-Union Central Trade Union Council (VTsSPS), to increase the established maximum amount of bonuses paid from the wage fund. Sector enterprises are also granted other rights substantially expanding their ability to use their own capital and sources for developing production and solving social problems and also for providing incentives to labor collectives.

Expanding the rights of motor transport administrations, associations, and organizations under the new conditions of economic management is aimed at increasing their responsibility for fulfilling contract commitments to customers being serviced, increasing the standard of labor and the quality of passenger transportation, improving efficiency, and ensuring dependability of transport service.

Increasing the responsibility of the ministry as a whole and also the motor transport administrations and associations for the end work results is envisioned through a system of planned and rating indicators, a procedure for forming and using economic incentive funds, and a system of economic penalties which are instituted for nonfulfillment or violation of commitments made.

Today the economic activities of motor transport administrations, associations, and the ministry are evaluated according to the fulfillment of approved freight shipment plans in tons for the ministries and departments in accordance with contracts concluded, passenger turnover, profit, and also increase in labor productivity.

When contract commitments to customers are not fulfilled, the size of the material incentive funds of motor transport administrations and associations is decreased by 3 percent of the planned fund size for every percent of nonfulfillment. This obliges transport enterprises to set up their work with customers carefully, i.e., ensure absolute fulfillment of each contract made.

The new conditions of economic management increase the responsibility of the workers of the sector for ensuring a policy of economy of all types of resources and for absolute fulfillment of the most important end indicator of work efficiency--profit. Here a system of economic penalties of sorts is being introduced. In particular, if up to 2 percent of the profit plan is not fulfilled, motor transport administrations and associations contribute a standardized profit withholding tax to the budget, leaving a lesser percentage of the profit for their development and incentives. For above-norm reserves of commodity stocks and for uninstalled equipment, they contribute an additional payment to the budget amounting to 3 percent of the cost of the reserves and equipment.

As we see, under the new conditions of economic management, motor transport's responsibility to the national economy for work results increases sharply.

This is the way it should be, for such are the demands of the current stage of development of the economy, the demands of life itself.

As the results in the first 6 months of this year indicate, the transition of motor transport to the new conditions of economic management has made it possible to improve substantially the basic operation indicators and to ensure a high quality of servicing of shipments of various sectors of the national economy and the population.

According to the results, during the 6 months the ministry fulfilled planned quotas for all indicators. Nearly 8 million tons of freight above the plan were hauled (104.1 percent), and an additional 44 million ton-kilometers were carried out (101.4 percent). The quota for passenger turnover by buses was overfulfilled by more than 160 million passenger-kilometers (102 percent); the quota for paid taxi kilometers-- by 3 million paid kilometers (103.3 percent).

Between January and June of this year, motor transport administrations and associations of the sector managed to fulfill the plan for sale of industrial output, for domestic services to the population, and for paid services. Industrial enterprises overfulfilled the plan for sale of output by nearly 600,000 rubles (102.7 percent). The above-plan volume of domestic services to the population was 500,000 rubles (109.2 percent), and that of paid services to the population was 5 million rubles (104.8 percent).

During the reporting period, the ministry as a whole met the planned quotas for income by 103.6 percent, for profit by 116.6 percent, for increase in labor productivity by 103.8 percent, and in industry by 103.4 percent. A savings in the wage fund (2.8 million rubles) and the established limit on worker personnel strength were achieved. According to the results during the first quarter of this year alone, 1.5 million rubles over and above the plan were contributed to the state budget.

Much work is also being done to increase the quality of serving the sectors of the national economy and the population, and also to increase the efficiency in using rolling stock for freight shipments. The customer plan was fulfilled for all planned ministries and departments. The level of fulfillment of contract commitments rose substantially; 89.8 percent compared to 66.7 percent for the same period in 1985. The number of bus runs interrupted decreased by 34.8 percent.

Nevertheless, it should be noted that restructuring the work of motor transport administrations and associations under the new conditions of economic management is still taking place slowly. The rights of enterprises in planning their economic activities are materializing poorly, and responsibility for work results is not increasing enough. In this connection, much remains to be done to carry out the set tasks, primarily to eliminate interference in all production elements of motor transport management.

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## MOTOR VEHICLES, HIGHWAYS

### DIFFICULTIES IN CONVERSION TO LNG FUEL

Moscow AVTOMOBILNYY TRANSPORT in Russian No 10, Oct 86 pp 20 - 21

[Article by G. Tarakanov, Central Scientific and Technical Information Bureau of the RSFSR Ministry of Motor Transport: "This Is Interfering With the Shift to Natural Gas as a Fuel"]

[Text] More and more frequently we are encountering motor vehicles which have six-eight cylinders with compressed natural gas located under the truck bed. All of the advantages of natural gas, which is being used as a fuel for automotive engines, are widely known today.

During the Fifties, the ZIL [Moscow Motor Vehicle Works imeni Likhachev]-156, ZIL-166 and GAZ [Gorkiy Motor Vehicle Works]-51B had both a gasoline and natural gas fuel system. This interconnection permitted one to shift from one type of fuel to the other when necessary. More than 30 compressor stations were constructed at the time for natural gas refuelling, primarily in the regions of natural gas deposits -- in Saratov Oblast, the Ukraine and Central Asia. During the Sixties, however, the production of gas-cylinder motor vehicles was sharply curtailed. Practically all of the stations were dismantled.

At the present time, the RSFSR Ministry of Motor Transport is developing the necessary norm and technical documents for shifting the automotive fleet to natural gas as a fuel. On the whole, the problem of motor transport gassification requires the participation of many branches, especially the Ministry of the Gas Industry, the Ministry of Chemical and Petroleum Machine Building and the Ministry of Instrument Making, Automation Equipment and Control Systems.

Automotive natural gas refuelling stations must be built in all cities so that a driver can obtain natural gas fuel easily and quickly. In contrast to standard filling stations, they are a complicated installation that is equipped with compressors, gas accumulators, etc. It is evident that significant expenditures are unavoidable during this. All of this, of course, does not evoke delight in the Ministry of the Gas Industry. During the past five-year plan, 52 natural gas refuelling stations should have been constructed and commissioned in the RSFSR; actually, only 19 were built.

Where is this -- to put it mildly -- disinterested position of the Ministry of the Gas Industry leading? To enormous losses in state assets. The bottled-gas



powered ZIL and GAZ vehicles that are arriving in motor enterprises -- and they are entered on the accounts for gasoline powered models -- are compelled to use liquid fuel because of the absence of stations. This leads to an over-expenditure in gasoline. The fact is that gas cylinders are "empty ballast" which increases the weight of a vehicle by 600-800 kilograms. Additional fuel is expended on this useless load.

Yes, and the natural gas refuelling stations, which have been constructed in several RSFSR cities, are standing idle waiting for trucks to refuel with natural gas. It is possible to observe a typical picture in Omsk. Early in the morning, thousands of motor vehicles of different types wend their way to filling stations. The filling station workers try to "quench the thirst" of each automobile with gasoline or diesel fuel as quickly as possible. The line, however, grows and grows.

You will see nothing like this at the filling station, for example, near the oxygen machinebuilding plant. Motor vehicles, which work on compressed gas, are serviced here.

M. Vyalov, the senior foreman of the natural gas refuelling station, says: "We sit for a long time without any work. We wait; sometimes, someone complains. We only refuel 35-40 motor vehicles with a daily capacity norm of 600."

It turns out that the collective numbers 24 individuals; everyone, in turn, performs a 24-hour watch -- the compressors and other equipment cannot be switched off for a "rest". Here they sit, not knowing how to occupy themselves. They wait until finally the next motor vehicle arrives for refuelling. You see, the number of vehicles, which operate on natural gas in Omsk, is more than 500.

We succeeded in waiting for one of them. One of the on-duty gas cylinder filling attendants went up to it. Let us get acquainted with the driver. After serving in the ranks of the Soviet Army, Sergey Kizilov arrived in the Omskselkhozstroytrans [Omsk Agricultural Construction Transport] Association.

The young driver said: "They suggested that I sit behind the wheel of this truck. They said that it was an avenue with prospects and that it was technical progress. I did not refuse and I am not sorry -- it is really handy and advantageous to use natural gas as a fuel instead of scarce gasoline."

I found out from Sergey Kizilov's further explanations that 43 motor vehicles have now been converted to compressed gas in his association. All of them are refilled at this station; a cylinder is sufficient for two days. They managed to save 180 tons of gasoline last year through their operation. It is planned to convert no less than 20 trucks this year.

Here is what S. D. Kiselev, the chief engineer of Omskselkhozstroytrans, has said:

"We have used -- with quite a great deal of benefit for ourselves -- the experiences of the motorists in the Omsk Oblast Gas Administration, who were the first in the oblast to begin converting engine fuel systems from gasoline to compressed gas. In the future, we are counting on maintaining business-like bonds with them -- there is always something to learn from them."

The following figures confirm the truth of these words: More than 200 motor vehicles have been converted to natural-gas fuel in the Omsk Oblast Gas Administration using its own forces. It is planned to add another 30 trucks and specialized motor vehicles to them.

M. G. Dzivulskiy, the chief engineer of the Omsk Oblast Gas Administration, says: "We have concluded a new contract with the Omsk Motor Vehicle Highway Institute for converting 15 passenger cars. Thus, the day is not far away when all motor vehicles with gasoline engines will begin to operate on compressed gas -- this is 90 percent of our entire vehicle fleet."

It is true that the enthusiasts of this valuable undertaking, who are working in the Omsk Oblast Gas Administration, have achieved a great deal. It is also gratifying that their experiences have found support in other collectives. In particular, quite a few motor vehicles have been converted to natural gas in the Sibgazifikatsiya [Siberian Gassification] Association, the Omsk Assembly Administration in the Sibpromventilyatsiya [Siberian Industrial Ventillation] Trust, the motor vehicle garage at the Electrical Engineer Plant imeni K. Marks, and in other enterprises and organizations in Omsk.

Let us point out, however, that all of this is so-called departmental transport. What about the general-use motor vehicles that are concentrated in the Omskavto-trans [Omsk Motor Transport] Association? Here, there are more than 220 vehicles operating on the inexpensive fuel. It was planned to bring the fleet up to 600 vehicles during the 11th Five-Year Plan.

I posed the following question to A. S. Reut, the chief engineer for Omskavto-trans: "Where did the 'hitch' come from?"

Aleksandr Sergeyevich answered: "We sent a request to the RSFSR Ministry of Motor Transport to allot no less than 100 bottled-gas vehicles annually to our association, but we received considerably fewer than the number requested. During 1983, 44 vehicles arrived from the Gorkiy Motor Vehicle Works and only 37 during the following year."

Everything is oriented in the Omskavtotrans Association toward receiving vehicles that are completely factory ready. Here, they tried to use the experience in converting them using their own forces, but the necessary equipment could not be found anywhere -- no one had released funds for it.

True, the chief engineer remembered that 100 sets of equipment for mounting it in motor vehicles had arrived in 1979, but it turned out to be incomplete during the inspection -- the supplier was not the manufacturing plant but the kindred Lenavtotrans [Leningrad Motor Transport] Association. It was necessary to use the long awaited sets as spare parts.

Nevertheless, five years later the Omsk people again tried to "procure" 100 sets of the equipment necessary to convert engine fuel systems from gasoline to compressed gas. This request was sent to the RSFSR Ministry of Motor Transport but a reply did not come from there.

There are more than 500 bottled-gas vehicles in Omsk and the oblast -- and only one natural gas refuelling station.

M. I. Gyalov, the senior foreman of the natural-gas refuelling station, says: "No matter how we talk to the directors of the enterprises that have bottled-gas vehicles, there are no improvements. About two years ago, we received a request to refuel vehicles from the cargo ATP [Motor Transport Enterprise]-1 in Omskstroytrans where there are about 100 of them. We were happy, but in vain -- they did not come to us."

Meanwhile bottled-gas vehicles travel about the city streets. However, they are refuelled in their own garages: special posts have been equipped there.

If one takes a parochial view, the benefit is appreciable.. But what about the load on the capabilities of the natural-gas refuelling station whose construction cost the state almost 500,000 rubles? How much does its permanent maintenance in operating condition now "eat up"!

V. I. Araynov, the chief engineer of the RSFSR State Committee for the Supply of Petroleum Products Omsk Administration, pointed out in a discussion: "The station was provided for the commissioning of another two stations like this in Omsk. However, because of the extremely low load on the station that has already been commissioned and also because of the supply of natural gas fuel to the city that is planned for the near future, a reorientation has been made -- it is necessary to erect different stations that operate on compressed gas."

It turns out that new designs appeared while the discussions were taking place. It is now necessary to adapt to them. First, it is necessary to transfer the station, which exists in Omsk's Amurskiy Settlement to another proprietor -- the RSFSR Ministry of the Gas Industry. Second, it is necessary to secure from the construction of new points for refuelling automobiles with even cheaper compressed natural gas since liquified gas is a petroleum refining product. Thirdly, it is necessary to load completely and to use wisely existing capacities for servicing bottled-gas vehicles.

Other branches are not displaying an interest in converting motor vehicles to natural gas. Every station, as we have already said, must be equipped with specialized equipment and control and automation systems. The Ministry of Chemical and Petroleum Machine Building and the Ministry of Instrument Making, Automation Equipment and Control Systems, however, are frequently frustrating the planned periods for developing and producing the required equipment. It is sufficient to say that the construction sites, where the stations are being built, are being equipped with locking fittings by only 40-65 percent and with valves by 50-80 percent.

When selecting a site for a natural gas refuelling station, it is necessary to consider not only its closeness to gas sources but also the concentration of the vehicle fleet in order to decrease empty runs. Unfortunately, the local power bodies do not usually take this circumstance into consideration.

Finally, a problem that has -- generally speaking -- not been managed to be solved due to the fault of the Ministry of the Gas Industry and the USSR State Committee for the Supply of Petroleum Products. We are talking about the testing and examination of high pressure gas cylinders. In accordance with the rules that are in effect in the USSR and that were approved in 1973 by the USSR State Committee for the Supervision of Safe Working Practices in Industry and for Mine Supervision, gas cylinders must be periodically -- once every two years -- subjected to hydraulic and pneumatic testing and be examined in the presence of an inspector from the State Committee for the Supervision of Safe Working Practices in Industry and for Mine Supervision. State Committee for the Supervision of Safe Working Practices in Industry and for Mine Supervision rules say that "The periodic examination of cylinders should be conducted in filling plants or at filling stations by the workers of these plants." However, they are still debating who should engage in the examination. The Ministry of the Gas Industry and the State Committee for the Supply of Petroleum Products have still not given an answer to this.

We will not demonstrate the need to convert motor transport to the new and more economical type of fuel -- liquified and compressed natural gas instead of gasoline. The times themselves have posed this question. Many years of work experience and practices in the Ukraine and the Russian Federation have shown the large advantages of bottled-gas vehicles, especially when transporting products and commercial freight under urban conditions on short runs. The main thing now is to solve how this is to be done most effectively, with the least expenditures and in the shortest time possible during the period of accelerating scientific and technical progress.

Let us take, for example, the construction and commissioning of gas refuelling compressor stations. Their erection is taking place over a long period of time and frequently with disruptions of the planned rates. This situation has been observed in Leningrad, Gorkiy, Kharkov, and Norilsk. With such an attitude toward the entrusted work on the part of the contractors, it is hardly possible to count on success in carrying out the obligations that they have adopted for commissioning the important projects. Strict monitoring by the trade unions of the interested branches could play a role here -- and not only during the construction of the gas refilling stations but also in the observance of the planned periods for developing, producing and supplying the equipment required for them.

A second important problem. The conversion of vehicles to natural gas requires higher qualifications from each driver and every specialist who will directly service the rolling stock and appropriate equipment. The experiences of Leningrad's economic and trade union organizations deserve attention and dissemination. During recent years, Glavlenavtotrans [Leningrad Main Administration for Motor Transport] expanded the training of drivers, engineer technical workers,

refuelers, and metal worker repairman for servicing natural-gas refuelling stations and bottled-gas automobiles in its training course center. This is being done with a consideration for the future. You see, approximately 10,000 trucks, taxis and buses, filled with compressed gas will travel on Leningrad's city lines by the end of the 12th Five-Year Plan.

In counting on the assistance of the Ministry of the Automotive Industry and other ministries and departments, the people of Leningrad are themselves not sitting on their hands. In creative cooperation with other organizations and a branch of the motor transport scientific research institute and with the energetic participation of the Leningrad council ispolkom, they have developed and are implementing a program for converting the vehicle fleet to natural-gas fuel. Besides centralized deliveries of bottled-gas vehicles, a section has been organized in the association where 10 vehicles are reequipped each day. A diagram for siting natural-gas refuelling stations in the city and oblast has been compiled so as to reduce empty runs by transport equipment to the minimum.

Based on the general discussions about the advantages of bottled-gas motor transport, it is time for all interested parties to undertake the task seriously and thoroughly.

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## MOTOR VEHICLES, HIGHWAYS

### MOTOR TRANSPORT ROLE IN AGROINDUSTRIAL COMPLEX STUDIED

Moscow AVTOMOBILNYY TRANSPORT in Russian No 10, Oct 86 pp 25-26

[Article by A. Silayev and O. Katusheva, USSR Academy of Sciences Institute for the Social and Economic Problems of the Agroindustrial Complex, Saratov: "Servicing the Agroindustrial Complex: A Proposal"]

[Text] Under the conditions of agroindustrial integration, the work of motor transport is an integral part of the production and sale of agricultural products. The role of motor transport in the economy of agricultural rayons is growing with the increase in the intensification of agroindustrial production and, consequently, the growth rates of agricultural freight shipping volumes.

Against the background of the ever growing demands for motor transport support of the agroindustrial complex, it is necessary to recognize that the main task -- the more complete and timely satisfaction of agriculture's shipping requirements -- has still not been solved. This is explained by the disconnection and irrational use of transport potentials, the decentralization of motor transport and the impossibility of using -- as a result of this -- economic mathematical methods for organizing shipments, computer equipment, modern communications means, etc.

In Saratov Oblast, the majority of transport enterprises, which are subordinate to the oblast agroindustrial committee, have less than 50 vehicles; the remainder -- basically the motor transport enterprises in the Goskomselkhoztekhnika system -- have on balance 90-100 vehicles. The average-sized ATP [motor transport enterprises] in the Saratovavtotrans [Saratov Motor Transport] Territorial Association have 300-400 vehicles each; however, the association carries out only a small portion of agricultural product shipments.

The tendency to -- on the one hand -- enlarge general-use motor transport enterprises and to -- on the other hand -- increase the number of departmental truck fleets, the majority of which are unprofitable because of significant transport costs, is being observed. In Voroshilovgrad Oblast, for example, "... a curious correlation of the requirements for spare parts depending on the availability of the fleet" was exposed. "In the motor transport enterprise where 150 vehicles are operated, the annual requirement for spare parts was 15,800 rubles per 100 vehicles. With a fleet of 80 vehicles, it grew to 27,500 rubles; and

with 20 -- to 40,000 rubles."<sup>1</sup> Besides significant expenses for repairing vehicles, the productivity in departmental truck fleets is 1.5-fold lower, costs 40 percent higher and fuel consumption 15-20 percent more than in large general-use motor transport enterprises.

Among the reasons that explain the growth in the departmental fleet, it is necessary to single out the shortage of transport capacity reserves in general-use motor transport for guaranteeing the carrying out of shipments and the absence of a single approach in distributing spheres of activity and transport assets between the departmental fleet and the enterprises of the RSFSR Ministry of Motor Transport. Despite the directions on accelerating the development of general-use transport, this led in 1984 to the departmental vehicle fleet increasing by 1.7 percent and the percentage of RSFSR Ministry of Motor Transport vehicles in the overall truck fleet of the Russian Federation's national economy decreasing by 0.3 percent.

Experience shows that the concentration of the motor vehicle fleet in large enterprises, the improvement of planning and management, and the use of advanced methods for organizing shipments are required in order to increase the effectiveness in servicing the agroindustrial branch. In connection with this, the question: "Is it really so complicated to use the advanced Saratov method for the centralized operational planning and management of transport<sub>2</sub> operations?" is appearing more and more frequently on the pages of the press.

The basic elements in the Saratov system are: Coordinating the work of motor transport assets involved in shipments regardless of departmental subordination, centralizing operational management of shipments for the entire technological cycle, planning each day the work of each vehicle and trailer, and using economic mathematical methods and electronic computers when calculating the daily plans for transport-procurement work.

The effectiveness of incorporating automated systems for controlling shipments of agricultural products by motor transport during the harvest is made up from various types of savings obtained by the national economy. First of all, there is the savings from reducing the expenditures of transport resources on performing harvesting, transport and procurement work which is obtained by reducing the number of vehicles involved in harvesting the crop. Motor transport enterprises also have savings thanks to a decrease in shipping costs as a result of improving the technical and operating indicators for the use of transport systems through the operational and daily planning and dispatch regulation of their work. The savings for procurement enterprises are made up from the increase in the carrying capacity of the production lines as a result of the smooth delivery of agricultural products. Finally, agricultural enterprises receive savings from the decrease in the natural losses and the increase in the quality of agricultural products by shortening the periods of their storage at the loading sites.

In Saratov Oblast, the harvest is performed every year with a steady reduction in transport expenditures. Research has shown that approximately 30 percent fewer transport resources are expended per one million tons of gross grain yield.

The expenditure of labor resources and fuel and lubricant materials is decreasing significantly. The daily output for one vehicle in the Saratovavtotrans Association is 65-70 percent higher than in the RSFSR Ministry of Motor Transport. If the other oblasts in the Russian Federation were to achieve this productivity in transport assets during the harvest, this would mean a reduction of more than 200,000 vehicles involved in the harvest and the freeing of approximately 300,000 drivers and other personnel.

The insufficiently wide dissemination of the Saratov experience is caused, in the first place, by the fear of mistakes that are unavoidable when incorporating anything new because it is evident that this at first requires large expenditures of forces and resources. In addition, the material base (computer equipment, communications systems, etc.) for forming a system for the centralized management of shipments has not been prepared everywhere.

However, the Saratov method for organizing transport and procurement work in the shape, in which it is now being used, is not devoid of shortcomings. The main one of them is the seasonal nature of the work. Whereas during the harvest when shipment management centers (TsUP) are functioning, transport assets are used effectively (the idle time of vehicles and customers is reduced to a minimum); during the time between harvests, the idle time of vehicles grows, opportunities for additions appear, etc.

The Saratovavtotrans Association also uses a system, which operates year-round to direct the work of the "freight central dispatch service" transport that includes shipments to the city. The system has been called upon to insure the centralized planning, monitoring of the use and analysis of the work of cargo motor transport for all types of freight shipments, and the introduction of advanced and more modern forms for organizing the transport process using computer equipment.

Why has no attempt been made to synthesize the described systems and create a single complex for the centralized management of agroindustrial complex transport services that would embrace all types of freight shipments carried out by the transport of the different departments and -- what is the main thing -- that would operate permanently? During the harvest, the workers in this complex would additionally be able to direct transport and procurement work and, during the winter period -- the centralized transporting of fertilizer and other items. There is no doubt that this would permit work to be organized more effectively (the idle time of agricultural equipment to be significantly reduced, the involvement of motor transport to be curtailed, the work of the transport assets from different ministries and departments to be coordinated as much as possible, the dependability of the transport system to be increased, transport costs in agroindustrial production to be lowered, and the safekeeping of freight to be insured).

Besides the establishment of central dispatch services and automated control systems, the effective management of the motor transport servicing of agroindustrial complexes requires a review of the indicators for evaluating the work of transport. It is quite evident that tons and ton-kilometers serve only as a physical measure of transport work. At the present time, proposals about

replacing these indicators with other ones, which evaluate not only the physical work of transport but also the level of servicing the customer (norm hours, etc.), are being advanced more and more frequently. These proposals are evidently known to the transport workers. However, all of the proposed measurements have still not found broad application in practice because of their complexity and insufficient development.

It is quite evident that the priority of the indicators for the level of transport services when compared with the resulting evaluations of the work of motor transport in tons and ton-kilometers should be placed at the basis of the procedure for planning and evaluating transport operations. The main planning and evaluation indicator can be the integral criterion for the complex effectiveness of the servicing process itself, which synthesizes its economic and social effectiveness from a national economic point of view.

The complex (economic and social) effectiveness of transport services is determined by the effect from accelerating delivery periods and reducing freight losses:  $\pi = \frac{\partial \pi}{\partial \tau} + \frac{\partial \pi}{\partial \pi}$  where  $\partial \pi$  is the economic effect from accelerating freight delivery periods;

$\partial \pi$  is the economic effect from reducing freight losses during transport;

$\partial \pi$  is the cited complete motor transport enterprise expenditures for providing services in the transporting of freight.

For practical application, it is necessary to determine the norm value of the complex effectiveness of transport services ( $\pi_n$ ) (according to the norm delivery period, freight losses, and cited norm expenditures during transport) and then, by comparing  $\pi$  with  $\pi_n$ , reveal the level of transport servicing.

This evaluation gauge for the level of motor transport servicing, in our view, reflects the essence of agroindustrial complex transport servicing more functionally. This indicator should be the basis for organizing the costaccounting relations of motor transport enterprises with the infrastructure links of the agroindustrial complex during the formation of internal costaccounting.

#### FOOTNOTES

1. "KamAZ [Kama Motor Vehicle Works] Vehicles Without Rejects or Concerning the Problems in the Effective Use of Vehicles", IZVESTIYA, 19 August 1985.
2. "Agroindustrial Transport", PRAVDA, 21 May 1986.

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## MARITIME AND RIVER FLEETS

### SUCCESSSES, PROBLEMS IN 1985 LENA BASIN RIVER TRANSPORT

Moscow VODNYY TRANSPORT in Russian 2 Dec 86 pp 1-2

[Article by V. Shamshin, second secretary of the Yakut Obkom of the CPSU: "The Responsibility and Reliability of Partners"]

[Text] Another complex navigational period has been completed in the Lena basin, and we can now sum up the work of the collective of the Lena United River Shipping Company. This is especially important, since the Lena river transport workers were operating under new management conditions, when providing the national economy of the Yakut ASSR and many of the regions of the Far North with everything necessary for a year of life and work depended on their efforts, efficiency, sense of the new and enterprise.

It should be noted that the collective coped with the responsible tasks. The plan for shipments was fulfilled ahead of schedule and all the cargoes were delivered in the most important directions; to small rivers, as well as to Vilya, Yana, centers in the Arctic and enterprises of the diamond-mining industry. Some 3.2 million rubles of above-plan profit were obtained.

The ship crews, port worker brigades and all the units connected with processing and delivering cargoes worked selflessly and very energetically. This is under shallow-water conditions, when the disruption in the guaranteed depths was 71 days or 47 percent of the navigational time.

Under the extreme conditions, the shipping company adopted efficient measures to concentrate the entire shallow-draft fleet at the Upper Lena, in the area of the Port of Osetrovo. Cargo shipment from shallow-draft to large-tonnage ships was organized at Kirensk, Peleduy and Yakutsk. A great deal was done, and this helped to deliver all the cargoes to the consumers. The Port of Osetrovo also did good work, even though it did not totally succeed in fulfilling its commitments.

The new management conditions summoned up a great deal that was useful. For the Lena United River Shipping Company this was the creation of cost accounting associations for the fleet, REB [repair and operations base] and the ports. Introduced for the first time was a system of the mutual material responsibility of the river ports and their partners--the industrial enterprises--for material



processing of the vessels and their normal production activity. Complete contract brigades made their presence widely known at the Port of Yakutsk.

Still, the leading role in successful achievement of the end results was played by the KhOF [fleet cost accounting association(s)]. They have a great future. This conclusion is drawn on the basis of a thorough analysis of their activity during a 10-month period.

The Lena River transport workers, in creating fleet cost accounting associations, proceeded from the fact that the system existing in the sector for organizing the work of the fleet at the REB did not correspond to the ultimate tasks of river transport work. In their opinion, as indeed in mine, as a former river transport worker and director of one of the largest enterprises in the basin, a strange situation had been created: the fleet was assigned to a specific REB, and it did not care how the shipment plan fulfillment was going. It turned out that it was even a disadvantage for the enterprise to have a vessel operate as efficiently as possible and have the yield from the work of the crew increased.

This sort of practice and the basic evaluative work indicator--force-tonnage-day--was renounced at the Lena Company. Today the industrial enterprises take a close interest in having the fleet not standing idle, but operating, taking part efficiently in shipments and bringing in a profit. It should be emphasized that the KhOF were created without additional staffs or increase in the number of administrative-managerial personnel. They were organized through internal reserves, wage saving and expanding the service zone.

I can say with assurance that in the course of this navigational period, the KhOF steadily made their presence felt and were of perceptible use. They made a fundamental contribution to fulfillment of the state plan and to providing the regions of the Far North with the necessary cargoes. The fleet cost accounting associations fulfilled their assignments. Some 700,000 rubles of above-plan profit were obtained. The expenditures per ruble of income were reduced by 1.5 percent, and at the same time the number of personnel decreased by 110 persons. On the whole, the above-plan balance-sheet profit for KhOF was over 9.3 percent. The material incentive funds increased accordingly.

The experiment carried out by the shipping company made it possible to expand the financial-economic independence of the enterprises, include the navigation staff and the shore services in the REB administration and creatively interest new collectives in the fastest achievement of the end results. The experiment has now become the norm, and, beginning with the next navigational period, new subdivisions will enter the ranks of KhOF. Of course, the collective of a shipping company could achieve better work results if its efforts were not held back by the partners in the transport process. This should be discussed in detail.

Work under the new conditions of economic operation imposes special requirements, not only of the collective of the shipping company, but also of its partners in the transport process. The fate of navigation, efficient use of

the fleet and the port capacities and full-volume deliveries of all the planned national economic cargoes to the Far North sometimes depend on the allied enterprises and their strong sense of responsibility for the state. Today, more than at any time, the question of the responsibility of partners and their sense of obligation and integrity in fulfilling coordinated, joint decisions and commissions of the government and other directive organs arises very keenly. This is the requirement for the reorganization taking place in our country. This is the path outlined by the 27th CPSU Congress.

Unfortunately, we often have occasion to run into facts that actually shout out that not all the directors and not all the work collectives are genuinely proceeding with reorganization of their work and their thinking. This is all the more bitter, since such things are encountered among the sectorial staffs--ministries and departments.

I do not wish to speak without adducing any proof. I shall give a number of examples of this irresponsibility. I noted above that the Lena United River Shipping Company had successfully coped with the assignments for cargo shipments and had obtained a profit from their transport operations. At the same time, part of the national economic cargoes still remain deposited at the Port of Osetrovo, and the above-plan idle times for the fleet undergoing processing, for nine months, were 3.5 million tonnage-days. This tremendous figure is a detriment to our national economy. During the busy season of the navigational period, many ships stood idle. They lost 260 million ton-kilometers, and could have transported an additional 130,000 tons of cargo, which remained at the port for the winter.

What are the reasons for this? They exist, and they are very serious.

As far back as the beginning of the 11th Five-Year Plan, the directive organs of the country passed a special decree on developing the berthing services and the capacity park of the petroleum bases in the Lena basin. In this important and key document there was a precise and clear statement as to which specific ministries and departments should take part in this work, particularly, in the construction of 1500 running meters of berths on the Lena and its tributaries, and not only take part, but construct these objects so as to accelerate the processing of the fleet and increase its throughput, especially as cargoes are delivered to those centers for enterprises subordinate to non-disciplined ministries.

The 11th Five-Year Plan has passed and all the deadlines fixed for putting the 1500 running meters of berths into operation have elapsed. Let us analyze the state of affairs and it will become clear that a number of ministries which had received the governmental assignments failed completely to fulfill them, unless one counts a berth of 49 running meters constructed at the Port of Olekminsk. I wish to emphasize that none of the directors bore the responsibility for the failure of the state assignment nor the violation of executive discipline.

This unobliging attitude, however, struck a good bargain with the river transport workers. The point is, that they succeeded in totally eliminating above-plan idle times at their own berths, while at the berths of the clientele,

These idle times keep increasing, and the delivery of the necessary amount of cargo to centers of the Yakut ASSR is held back.

All right, we will consider that the guilty are forgiven for their past sins. At the end of last year the directive organs of the country adopted a new decision on improving cargo shipment to regions of the Far North and further development and construction of the berth facilities and capacity park for the petroleum base. The same ministries and departments were commissioned to construct the same objects. Only the deadlines were changed--they were extended to the entire 12th Five-Year Plan.

1986 has passed, and the new decree should be in effect to the utmost extent. All the same, the berths for the clientele are not being constructed. The CPSU obkom has begun to fear that this document too can remain a mere empty phrase for some partners of the Lena River transport workers. So far, the situation is such that, sensing their impunity, the ministries and departments can again disrupt the construction of important berths in the Lena basin.

The party obkom feels that, for example, the USSR Ministry of Nonferrous Metallurgy has by no means done everything in this respect. First of all, it should have immediately organized the development of the Port of Lensk, and in particular, have completed the construction of 350 running meters of berths in 1985. This deadline was not met, and they have not yet begun fulfilling the task at Lensk today. Meanwhile, this port has turned into a forge shop of idle times. The fleet stands idle for a considerable length of time, for unloading, and while waiting for it. The Yakutalmaz Association, at the beginning and end of the navigational period, sends a great many brigades to work at this port, but the above-norm idle times reach 500-700,000 tonnage-days yearly. Because of these losses alone, the river transport workers failed to ship up to 40,000 tons of additional cargo from Osetrovo. Almost 45 percent of the ships are processed at Lensk with an overage of idle time.

The directors of the USSR Ministry of Nonferrous Metallurgy are well aware of this, but they continue to stand aside, taking the position of observer, and do not take measures for accelerated development of their own Port of Lensk. This is not the only fact. The ministry has not developed construction of a hundred-meter berth at the settlement of Khandyga. Ships are unloaded there in accordance with the direct variant, ship-floating crane-motor vehicle. This work, if I may say so, was done so that, this year, 62.5 percent of the fleet was processed over the planned norms, and the above-plan idle times constituted 207,000 tonnage-days.

A berth 200 meters long should have been built in connection with the construction of the Deputatskiy Mining and Concentrating Combine at the settlement of Kuyga as far back as 1985.

Nothing was done in the five-year period, however, and it was only in 1986 that about 700,000 rubles were utilized--construction of a 70-meter berth wall was begun. For a long time the unloading has been done here on the unequipped bank. The fleet idle times are almost 900,000 tonnage-days, which is twice the planned norms. Just imagine--every second ship was processed with great overages of idle times.

This approach is also characteristic of the USSR Ministry of the Construction Materials Industry, the USSR Ministry of the Coal Industry and the RSFSR Ministry of Trade. They also feel that the commissions of the government on the development of the berth facilities is not obligatory for them.

The state of affairs with respect to processing oil tankers at the berths of the petroleum base is also extremely unsatisfactory. In the last five-year plan, RSFSR Goskomnefteprodukt did not construct a single meter of berthing structures at the Lensk, Yakutsk and Nizhneyansk petroleum bases--the largest in the northern republic. Moreover, out of 21 petroleum bases of the Yakutsk Administration, at 15 the fleet is processed at the natural bank, and at others the diameter of the pipelines is not over 100-150 mm, while the diameter of the tankers' pipelines is 219 mm. The bank pipelines are connected to the ship's cargo system with flexible hoses from the petroleum base. All this leads to their unreliability and loss of pump power.

A paradoxical situation has formed through the fault of RSFSR Goskomnefteprodukt --it is not developing its bases, is accepting no departmental oil-supply objects for its jurisdiction, and in no way wants to transfer the Lensk and Yakutsk petroleum bases into the ranks of transshipping bases. Meanwhile, new unloading centers with a volume of 100-1000 tons are quietly appearing all the time in the basin. The work must be done at unequipped natural banks, which increases the fleet's idle times. I should like to ask here: just what responsibility and integrity of partners in the transport process can be spoken of in this case? It is all more like irresponsibility and lack of principles.

This approach is also characteristic of the RSFSR Ministry of Trade. VODNYY TRANSPORT has already more than once told about the tremendous idle times for the refrigeration fleet in the Lena basin, particularly at Yakutsk. There is no refrigerator at the Port of Yakutsk. The RSFSR Ministry of Trade was commissioned to begin construction of a refrigerator in 1986! Unfortunately, however, its construction has not so far been started.

The state continues to suffer serious losses from below-standard preservation of perishable foodstuffs, and the RSFSR Ministry of Trade should finally understand this. It should not feed people with promises, but must supply, without losses, the meat products allotted for the population of Yakutiya.

The problem lies not only in this, however. We know that it is not permitted to ship perishable cargoes--meat, meat products, fish and animal fats--in direct mixed railroad-water combination. But because of the fact that Gosagroprom [State Agro-Industrial Committee] and the RSFSR Ministry of Trade do not have a transshipment refrigerator at Ust-Kut, the RSFSR Ministry of Railways and Ministry of the River Fleet came to an agreement on a procedure to eliminate the planning of shipping these cargoes in direct railroad combination with their transshipment at the Port of Osetrovo according to the direct variant, railroad car-ship. The agreement was made in 1965, and at that time the amount of cargo shipped was negligible and meat products were sent only from the Irkutsk and Ulan-Ude refrigeration combines. The shipping and transshipping centers were located within the limits of the East Siberian Railroad alone, which made it possible to conduct the operations according to the schedule agreed upon in an organized manner.



In the last 20 years, the shipment volume has risen over 10-fold. Perishable cargoes are now shipped from Maritime, Altay and Khabarovsk Krays and from Irkutsk, Novosibirsk, Omsk, Kurgan, Voronezh, Rostov and Orenburg oblasts. The RSFSR Ministry of Trade legalized such shipments in a one-sided fashion, and considers them mixed. It attaches each consignee, and there are 15 of them, to a certain oblast--supplier--and the Irkutsk Refrigeration Combine is now relieved of supplying products to the Yakut ASSR. Perishable cargoes are thus transferred throughout the country for many thousands of kilometers to the Port of Osetrovo for transshipment.

They take up precious refrigeration cars, and so far there is no possibility of organizing the operations according to a unified schedule. Irregularities and disruptions in the scheduled periods lead to long idle times for the moving stock. Why do they not return to the former practice and not ship meat and meat products from the enterprises of Irkutsk Oblast? The national economy will receive quite a large profit from this and the combined activity of the transport workers will become more precise and better thought out. Indeed, the foodstuffs will also be better preserved.

The rapid development of the productive forces of the Yakut ASSR urgently requires a sharp increase in the delivery of cargoes to centers in the Far North. The growth rates of the shipments and volumes of cargoes shipped are not accommodating us today. The Lena United River Shipping Company has worked out a new shipping system, and the CPSU obkom feels that introducing it will accelerate satisfaction of the demands of the region's national economy. What is the essence of this new system?

Some 120,000 tons of cargo is now shipped from the Port of Osetrovo, for over 4000 kilometers in the holds of the river ships to Tiksi and Yanu. Many motor ships and barges of the Lena United River Shipping Company are engaged in the shipments, and a great deal of time and effort is spent for each run. At the same time, about 50,000 tons of cargo for Yakutsk and Lensk are transported by the northern sea route. At Tiksi they are transferred to river vessels and delivered to the center of the republic.

The shipping company proposes turning over these 120,000 tons of cargo to the seamen, so that they can be transported by the northern sea route on CA-15 type vessels. Transshipment to river tonnage can be carried out at the Port of Tiksi. As a result, the fleet will be released from the river transport workers and will be able to be used for shipping cargoes to Yakutsk and Lensk. In this situation practically all the cargoes will be transported from Osetrovo without fail, and will not be left at the depository. Indeed, the volumes of transshipments of general cargoes will increase in one year from 22,000 tons to 3 million tons. This is the precise amount of cargo that the Lena River transport workers are obliged to deliver to centers in Yakutiya by 1990. It is precisely the amount that the republic already needs.

The transport chain will operate considerably more efficiently under the new system. The seamen will deliver cargoes to the Central Arctic by the northern sea route. The river transport workers will provide powerful motorships of the



Sibirskiy type for transshipment. There are enough of these vessels in the shipping company, and their number is growing. On the Tiksi-Yana line, a "turntable" is being organized--the fleet will operate according to schedule, and a crew contract brigade will take on the cargo handling. All the cargo will be transferred to Yana in a short time. Multiple transshipments will be sharply reduced, and underloading of the motorships will be eliminated.

In order to relieve the maritime tonnage engaged in transporting coal and lumber, the river transport workers will take on shipment of coal from the ports of Zelenyy Mys and Zyrvanka to Yana. Here too a permanent line can be operated where Sibirskiy types can deliver all the coal according to schedule. They can also ensure shipments of lumber to Yana without transshipping. Only this will make it possible to free the transfer capacities at the Port of Tiksi to process the dry-cargo ships arriving by sea.

Each ton of lumber and coal transported will be 80-100 rubles cheaper, and, an extremely important factor, it will be possible to avoid the yearly losses of timber when the rafts are towed to Tiksi, and they are not small--8-10,000 cubic meters. The technology will change and the timber will be transported in barge holds without any transshipments.

In our opinion, the proposals of the river transport workers merit the attention of USSR Gosplan, the Ministry of the Maritime Fleet and the Ministry of the River Fleet. They remove many problems, make possible more efficient use of maritime and river tonnage, provide everything needed by the enterprises of the Yakut ASSR and give a great advantage to the country's national economy.

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## MARITIME AND RIVER FLEETS

### PUNISHMENTS AFTER RECENT DNEPR RIVER SHIP COLLISION

Moscow VODNYY TRANSPORT in Russian 16 Dec 86 p 3

[Article by V. Gonta: "When the Bell Started Ringing: Afterword to a Tragic Incident on the Dnepr"]

[Text] The ship's bell rings more constantly when warning people of danger. In this case it rang out to announce an irreparable calamity....

On the evening of 6 November, the motorship Nikopol was proceeding via Kiev from Nedanchichi to Tripolye, where it was to take on mineral-building materials and set a course for Cherkassy.

At the same time, PT-142, a small river steamer, cast off from the right bank, according to the course of the dry-cargo carrier, proceeding on a run to the berth of a woodworking combine--a berth at Osokorki. There were six passengers on board. Seaman-purser A. Zagorulko was also in the salon.

N. Dvornik, the captain of PT-142, calmly guided his ship past the bridge under construction, and got his bearings from the "Southern Underground Crossing." Everything seemed normal: neither to left nor to right, as he later stated, did he notice the running lights of any moving ships or complements. V. Shevchenko, captain of the Nikopol, was in his quarters at this moment. He was having supper. N. Mospanenko, his first officer, stood at the helm.

PT-142 emerged out of the darkness in front of the Nikopol like a specter. The bow of the dry-cargo ship crushed the little river steamer beneath it and the latter sank almost instantly. V. Shevchenko immediately ran to the wheelhouse and, after taking control of the motorship, sounded the alarm and ordered the sloop to be lowered, at the same time giving the command to reverse engines.

N. Mospanenko and O. Loza the machinist's mate-pilot, in the sloop, searched the surface of the water until their eyes ached: it was possible that at least someone would come to the surface. T. Poprokopivna, the cook, was sent to the bow of the motorship with a life preserver. It was she who heard cries for help. They took the survivor on board the sloop and he turned out to be N. Dvornik, captain of the PT. They found no one else from the little steamer.

Soon afterwards, at the Kiev River Port Club, there was an out-of-town meeting of the Collegium of the UkSSR Glavrechflot [Main Administration of the River Fleet], which analyzed the causes of the tragedy. "Who was to blame and how could this happen?"--that was the question for which everyone awaited an answer. For the first question the answer was given immediately, an exhaustive and objective answer: the main person to blame for the tragedy was N. Dvornik, the captain of PT-142, who, as the investigation later showed, when crossing the main navigation channel, did not make the proper visual observation of the surroundings, permitted the motorship to be operated without sidelights and did not use an ultrashort wave radio station, which violated the Rules of Navigation of the UkSSR VVP and the Rules for Technical Operation of River Transport. There was also the second question, however, and to answer it involved naming those at the Kiev River Port who shut their eyes as to how PT-142 went out for its run without the correct electrical equipment. Identify the shortcomings in the work of the transport enterprise--but for those, the tragedy would not have occurred.

As for the shortcomings, the low level of production discipline and irresponsible attitude on the part of the management of the Kiev River Port toward the organization of passenger transport was noted at the meeting of the collegium. The lax monitoring of ensuring navigational safety for ships on the part of the navigation inspectorate and traffic safety and navigator security services was mentioned. The trade union organization has stood aside from the mobilization of ships' crews in the struggle for accident-free operation of the fleet.

Everyone who had a negligent attitude toward his duties was deservedly punished. Here is an excerpt from the decree of the Collegium of the Ukrainian Glavrechflot: "For a criminally negligent attitude toward his duties, which was the direct cause of an accident, N.P. Dvornik, captain-first officer-engineer of the motorship PT-142, is relieved of his post. The materials of the investigation are to be sent to the inquiry organs for institution of criminal proceedings.

"For serious omissions in work on cultivating, in the command personnel of the registered fleet, responsibility for strict fulfillment of the rules and Provisions in effect for river transport and regulating ship traffic safety, which was one of the causes of an accident that sacrificed human lives, and in consideration of the degree of culpability, M.S. Semenets, chief of the Kiev River Port, is relieved of his post. Further employment of A.N. Zhuk in the position of deputy chief of the Kiev River Port for passenger transport is considered impossible. P.V. Dvornik, chief of the Kiev Rayon Administration of the Kiev River Port, is to be relieved of his post. O.F. Krupchenko, chief of the Kiev line inspectorate for navigation, for lax monitoring of ship sailing safety in the area of control, is to be relieved of his post. A severe reprimand is to be announced for B.M. Fedorov, chief of the Ukrainian Republic Ship Inspectorate. Reprimands are announced for G.V. Medukh, chief of traffic safety and navigator security, and V.A. Sikorskiy, chairman of the Kiev River Port profkom [trade union committee]."

The Podolskiy raykom and Kiev gorkom of the Communist Party of the Ukraine, who had also carefully analyzed the causes of the incident in river transport during the meetings of the bureau, were strict and fair in determining the measure of punishment for the communists guilty of the occurrence.

...It is a bitter thing, when the sounds of a ship's bell announce a calamity. One would like to believe that in the future the bell will sound only to warn of danger. An incident like this should not be repeated.

## NAVY AND RIVER FLEETS

### WAYS TO INCREASE RIVER SHIPPING IN TOMSK AREA

Review VOENNY TRANSPORT in Russian 6 Dec 84 p 3

[Article by P. Drachev, chief of the Port of Tomsk, candidate in Economic Sciences: "Springs From Small Rivers"]

[Text] Transport is assigned an important place in the purposeful comprehensive program "Uskoreniye-90" [Acceleration-90] adopted by the Tomsk CPSU obkom for the 12th Five-Year Plan. In the five-year period the volume of cargo shipments by all types of transport will increase by 27 percent. The greatest development, however, will be obtained in the sphere of river transport--39 percent. While labor productivity on the average in all types of transport will increase by 17 percent, for river transport this indicator will reach 40 percent.

The "Uskoreniye-90" program specifies increased efficiency in transport work, primarily through technical reequipment and reorganization of existing enterprises, fuller use of the existing production and scientific potential, complete mechanization and automation and widescale use of new equipment and advanced technological processes. The program has incorporated proposals to speed up work at the "meeting-points" of the transport conveyor--this is the introduction of a system of containerizing and packing cargoes and an increase in labor productivity in the transport of so-called general cargoes.

Further intensification in the collaboration of allied workers is an extremely important condition for solving the problems posed. The "Transport" program establishes deadlines and procedures for developing a unified information system for all types of transport and widescale use of the potentials of both existing data computer centers and new ones.

Let us recall that as early as 1981, a unified industrial-transport complex was created in Tomsk Oblast, which included, in addition to river transport workers, railroad workers and motor vehicle workers, 16 enterprises and organizations of various ministries and departments using transport services. A unified system of work indicators for allied workers was developed. Its basis is delivery of cargoes to the consignees in tons strictly according to the products list and according to directions. A competition for efficient use of

the means of transport was organized among all the participants in the complex. The staff of the coordination council sums up the results of the work competition, with monthly presentation of the Red Challenge Banner, challenge pennants and monetary prizes. The experience accumulated by the Tomsk TPK [Transport Program Committee] in the 11th Five-Year Plan showed that the combined operations of the allied workers more quickly erases departmental barriers, raises the responsibility for the end results and contributes to the introduction of new principles of planning and stimulation.

The river transport workers of Tomsk Oblast are faced with extremely responsible tasks in developing shipments on small rivers. By the end of the 12th Five-Year Plan, we are obliged to increase shipments along rapidly-shallowing rivers by a factor of 1.5, or to ensure the transport of 6 million tons of cargo in the navigational period by 1990.

A considerable increase in cargo transport along small rivers such as the Chuzik, Parabel, Vasyugan, Chizharka; Tym and Chaya is planned. The need for a small-tonnage fleet will increase by a factor of 2.2.

If one takes into consideration the fact that even today we are feeling an extremely acute shortage of shallow-draft vessels, then this problem will be extremely complex in the 12th Five-Year Plan. Where is the way out? First of all, we are relying on the introduction, in 1987, of a highly mechanized shipbuilding shop at the Samus Repair-Operations Base of the West Siberian River Shipping Company, which will begin to produce 1000-ton barges. Unfortunately, the problem of supplementing our fleet with a shallow-draft tow unit is in no way solved so far. True, the Novosibirsk branch of the TSKB [central design bureau] of the Ministry of the River Fleet has proposed a tug with a propeller-wheel (draft 40 cm) and a design for a 9121 motorship to guide buckling stock, for small rivers.

So far, however, no active measures for their accelerated construction are evident. But time is passing. There are also other proposals which have been incorporated in the basic directions for creating technical means for transport development of the small rivers of the Ob-Irtysh basin in 1986-1990.

We see an important reserve for increasing shipments along small rivers in extending the navigational period, both through improving the water routes and through operating new vessels, including an amphibious type of surface-effect vehicle.

An All-Union Applied Science Conference on the problems of developing new types of transport in the Western Siberian region was held in Tomsk in September of this year. Its participants formed the general opinion that the most radical way of solving the transport problem under the conditions of Western Siberia is operating surface-effect vehicles (ASVP), which fear neither the absence of roads in Siberia nor the severe winter nor shallow water. In other words, in some sections of the Ob-Irtysh basin, year-round navigation is possible. We must prepare for this also. The first vessel, Puma, has already come to the banks of the Tom, and its experimental operation will begin soon. Ice breakers and ice-breaking attachments will also help the river transport workers to prolong the short-lived Siberian navigational period.



In the current five-year period, the volume of course work, especially on small rivers--the Chuzik and Vasyugan--will increase by a factor of over 1.5. The plans were to deliver 30,000 tons of cargo on the Chuzik this year, and we have delivered 57,000 tons.

Not all the needs of the oil field workers could be satisfied, however. We must deliver 101,000 tons to the Chuzik in next year's navigational period. It will be extremely complicated to do this under today's navigation route conditions. Therefore, the navigators are relying heavily on the increased activity of the Ob track makers. In 1987 the Tomsk river transport workers are to cope with shipments to the upper reaches of the Vasyugan in the section from Katylga to Maysk. The success of the matter here will in many ways depend on the coordinated actions of the Ob Railway Administration collective.

The new economic operation conditions oblige us to engage more boldly and quickly in reducing the proportion of manual labor. An important role is assigned to this direction in the "Transport" program. It is intended that 2082 persons be freed through mechanization and automation in all types of transport alone. Of course, we need mechanization, not on paper, but in act, and above all--in processing labor-intensive crate-piece cargoes. There are two paths here: containerizing and packaging cargoes. It is estimated that for every 100,000 tons of cargo sent in containers, 150 persons are released, and shipping this volume of cargo in packages makes it possible to release 100 persons. At the same time, the transport costs are reduced several-fold.

In the 12th Five-Year Plan, modern mechanized berths will be constructed on the Vasyugan and Vakh rivers in Tomsk and Strezhevoy. The second section of the Port of Tomsk is scheduled to be put into operation in 1989. This is 430 meters of berth wall and additional transshipping capacities, including a modern berth to process large-cargo containers. The complex of the second section of the port includes a dining hall seating 220, which will begin operation in next year's navigational season, a block of everyday facilities, a cultural base, a laundry and other objects.

In taking on the commitment for 1986, the collective of the Port of Tomsk announced the 12th Five-Year Plan to be a five-year plan of social development and a healthy way of life. In addition to the objects mentioned above, in this five-year plan we propose to construct at least 30,000 square meters of housing, a child care center for 280, take part in constructing a pioneer camp and modernize the hospital for the water transport workers and the polyclinic. Now, for the first time in Tomsk, a horticultural association, Vodnik, has sprung up, a volunteer temperance society has been created and is working actively.... In a word, a solution to social problems is, perhaps, one of the main springs for accelerating all our affairs.

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## MARITIME AND RIVER FLEETS

### IRREGULARITIES FOUND IN NORTHEAST MARITIME FLEET ADMINISTRATION

Moscow VODNYI TRANSPORT in Russian 9 Dec 86 p 4

[Article by G. Simkin: "The Hypnosis of 'Satisfactory' Statistics"; last paragraph is editorial comment]

[Text] A report and election conference of baskomflot [basin committee of the trade union of maritime and river fleet workers] was held in Tiksi. On the eve of the collegium of the Ministry of the Maritime Fleet, however, Yu. Lukin, chief of the Northeast Maritime Fleet Administration, was relieved of his duties for extremely gross violations of financial discipline. It could be assumed that there would be a serious discussion, guided by principle, at the conference on the situation in which the collective found itself and on the reasons for the economic fall of SVUMF [Northeast Maritime Fleet Administration].

The conference took another course, however. The report and the speeches noted the considerable progress of the collective, the outstanding work of individual crews and brigades, and emphasized the comprehensive activity of the trade union organizations. Individual shortcomings were also noted. But the main point--the fact that the administration's finances proved to be in a sorry state and the matter had reached the point where there was nothing with which to pay people's wages, and their payment was being stopped month after month --was mentioned only in passing. It was the same with respect to the fact that the plans for labor productivity and profit were not fulfilled. True, this was mentioned in the agenda of information for the delegates, but only very briefly and modestly.

...They did not count money at SVUMF. Yu. Lukin, chief of the administration, spoke directly and openly:

"Spend as much as is necessary, we will cover the losses with ton-mile output." But no--the ministry throws in money.

Everything was that way. But for the time being. Whereas before, SVUMF constantly received support, now they said 'no' and they did not give any money. It was impossible to produce above-plan output, labor productivity fell, profits dropped and all the economic blunders came to light. In nine months of this year, the absolute overexpenditure of the wage fund was 1,284,000 rubles. It is a huge figure for any enterprise, and for such a small one as SVUMF, it is simply fantastic. This is along with the fact that for the fleet administration alone, the profit obtained was short by almost 600,000 rubles. Labor productivity dropped by 15 percent as against that planned. There were failures in all directions. The local division of Gosbank became alarmed. There had never before been such an overexpenditure, especially as the transfer of planned payments of almost 900,000 rubles to the state budget was delayed.

At SVUMF, however, they did not actually count money. They introduced, for example, new rates for loading and unloading operations performed by the ship crews. They were high as it is, by the way. In the last few years each seaman received 250-400 rubles for processing a motorship carrying lumber. They processed vessels at river sand bars, and the additional earnings were quite stable--the seamen's work here was not easy. The wages were also very high, however. Each seaman received 250-400 rubles in addition to his wages for about two days of self-unloading. Beginning in June of this year, new rates were introduced, almost 60 percent higher than the previous ones. The wages of some crews became fantastic.

I have before me the official report on the motorship Sadriddin Ayni. It operated on the 'gold' line. In Tiksi, that is what they call the line to the Yana sand bar. An average of 4700 tons of timber was delivered on the run to the Yana sand bar. It was transshipped to a river vessel at the bar of the river with the ship's crane. For self-unloading, over 12,000 rubles were added on to the crew's pay--500-700 rubles each for the run. Let us take the barmaid or Seaman First Class. They were each given 500 rubles and more, and the captain--700. He performed the duty of brigade leader. In a month the wages for the barmaid were 2000-2500 rubles, and approximately the same for the seaman, while the captain received 3000-3700.

These are colossal figures. Hardly a specialist can be found in the country who could equal even the barmaid for monthly earnings, not to mention the captain. This did not trouble anyone, nor alert anyone. Everything was considered normal. The crew gave a report of the work done, the economists and accountants made the calculations with ease, the administration directors approved them and --come to the cashier's office.

The Tiksi transport agent called all these payments unearned incomes, which smells of 'write-ups', but more than one crew received these incomes. They were also added on for other seamen working on the Anabar and Kolyma and the sand bars of the Indigirka and Yana. Over 200,000 rubles vanished from the wage fund, for self-unloading.

Solid scientific forces such as Soyuzmorniiprojekt, in collaboration with Lenmorniiprojekt, took part in working out the rates. There is the director

of the problem--V. Kvitko--and there is also a responsible executive officer--I. Indilenis. The rates were agreed upon with the presidium of the central committee of the sectorial trade union. V. Degtyarev, chief of the Labor Organization and Wages Administration of the Ministry of the Maritime Fleet, introduced them for consideration and Deputy Minister B. Trunov approved them.

No one thought about whether SVUMF should raise the rates for self-unloading. As a result, the loss exceeded 200,000 rubles.

Something else is paradoxical. In the days when I was in Tiksi, a radiogram arrived from Lenmorniiprojekt. Deputy Director Safronyuk announced: "In accordance with the directive of V. Tikhonov, I propose to conclude an economic agreement on making the calculations, 'Rates for Loading and Unloading Operations Performed by Ships' Crews', to replace those that are no longer in force, for Nos 31, 93, 18.86." Safronyuk asked 10,000 rubles to make the study. And just where was the institute before, when the rates no longer in force were worked out? That should have been taken into consideration then.

The scientists and administrations of the Ministry of the Maritime Fleet now suddenly remembered: it seemed that those needs were not in that document. The attitude of the economic services of SVUMF and its directors is also surprising--they are the ones who should have sounded the alarm beforehand.

"We began to be anxious in September," says V. Kuchugina, chief of the OOTiZ [Division of Labor Organization and Wages]. "We asked the Ministry of the Maritime Fleet for 200,000 rubles for new rates, but they did not give them to us. You realize that this is the second year that we have experienced a feverish situation with the wage fund. There was no coordination between the services and the divisions. Each one solved its problem in its favorite way, without thinking about the consequences for the enterprise as a whole. The chief of the administration had many strong-willed solutions, which were not based on economic laws and practical calculations. I tried to talk about this more than once, but it was no use."

"We were hypnotized by the satisfactory statistics on the year's results," G. Golovko, the chief accountant, elaborated. "We saw that many solutions were not economically substantiated, but the year passed and all the miscalculations and sins were covered over by the ton-mile output. Where they were not dealt with, the ministry came to the rescue. In accordance with our plaintive letters and alarm bells, additional funds were allotted and they also covered up irresponsible activity. Last year too we had overexpenditures of the wage fund each quarter, amounting to 150-160,000 rubles.

"We appealed to the ministry, and they threw in half a million. They knew what was going on with our finances, they knew about all the considered decisions. We gave a report and showed everything just as it was.

"So the situation formed, that on the instructions of Yu. Lukin, the personnel division increased the staffs, supplementing the crews without coordinating with OOTiZ, the planning division and the accountants. They took, for example,

five ships on to the balance sheet. Not a single person nor kopeck was allotted for them, and the payment went. The number of workers in the RSU [Repair and Construction Administration] and SRMM [possibly, Ship Repair and Engineering Shop] increased by a factor of 1.5-2, shipbuilding and scrap metal processing sections were created and new services in the administration, an agency at Pevek and centers for winter lay-overs at Zelenyy Mys and Pevek were opened up. All this is without any labor plan and without any financing. The staffs on the whole increased by hundreds of positions, but by what means will they be supported?"

Yu. Lukin answered unequivocally: "By ton-mile output and above-plan profit."

The cargo turnover in the Central Arctic is stable, with negligible fluctuations in growth. This means that another way must be found. The management of SVUMF found it. Part of the fleet was released to the Far East and earned money in the inter-navigational period to cover all the expenditures. If the overexpenditure was too great, the ships were ordered to make extra runs. If even this was insufficient, SVUMF leased vessels from the Far East Shipping Company, and they obtained the necessary sums. All of the calculations were based only on obtaining some sort of tremendous above-plan profit. For several years the fleet went off for "earnings" in the Far East basin. Now, however, the Ministry of the Maritime Fleet has permitted only four motorships out of the planned seven to be dispatched, and no super-profit can be obtained.

There were many strong-willed, considered, and economically substantiated solutions. They handled the wage fund very freely. For example, with the aid of Glavkadry [Work with Seamen in Foreign Navigation, Personnel and Educational Institutions Main Administration], brigades of dock workers came here from all over the country. They found themselves without a full work load. At the end of the navigational period, almost 250 persons sat around idle for a month. The port lost over 300,000 rubles.

Depressing thoughts come to mind after one becomes familiar with the Tiksi "affair." The administration and divisions of the ministry played quite an unattractive role in this story. Let us take Glavflot [Shipping and Operation of the Fleet and Ports Main Administration]. Its directors knew about practically every strong-willed and non-strong-willed decision of Yu. Lukin. They knew and they supported them, even though they could have corrected them in time. The SVUMF ships went off for their "earnings" with their knowledge. Glavflot approved the supplementing of the fleet, the opening up of centers for winter lay-overs and increasing the number of the crews. No one thought about the financial side of the decisions, however. They were accepted at the ministry and not linked up from the standpoint of other administrations.

Many times the Glavflot directors were at Tiksi, signed serious resolutions and at the same time relied on Yu. Lukin's assurances that everything would be in order. They themselves broke off the flow of satisfactory figures after prohibiting additional ships from moving out to the Far East basin, but after all, for the whole year until fall they attested to the need for this measure and yielded to the persuasions of the SVUMF management.



The Ministry of the Maritime Fleet has been making a yearly audit. In 1985, for example, a representative, comprehensive group arrived at Tiksi. It was headed by V. Parkhomchik, senior expert of the KRU [Auditing Administration]. Working along with him were representatives of UOTiZ [Labor Organization and Wages Administration], Glavflot, Glavkadry and the legal division. They looked in vain for angry passages in the act on overexpenditure of the wage fund. They humbly mentioned that such overexpenditure existed. There were no conclusions. This year auditors from the Ministry of the Maritime Fleet arrived again--A. Molokanov, senior auditor of the KRU, and auditor G. Dmitriyeva. They paid no attention at all to the free handling of finances and there were no comments.

The UOTiZ received monthly reports on fulfillment of the labor plans. Why were the violations against it not promptly stopped and why were the SVUMF directors not called to order? After all, the overexpenditures for wages were almost monthly, quarterly. Nothing was initiated to establish order. What is more, as far back as two years ago, VODNYI TRANSPORT came forward on this subject twice and raised the question of the free handling of finances in SVUMF. It was noted that ministry employees go to Tiksi every year and are found working there as dockers, but are essentially recorded in economic brigades and, even though they do not have a full work load, receive 900-1000 rubles each per month. Some even held several jobs simultaneously and the local SMU sheltered them. There, too, there was a fair amount of "grease": 500-600 rubles each.

It has not been possible to determine whether there were cases like that in this navigational period. V. Natsayev, deputy chief of the personnel administration, said unambiguously:

"Last year I phoned around all the main administrations of the ministry and warned them, lest no one came to work."

This is a noteworthy episode. It characterizes some of the employees of the Ministry of the Maritime Fleet and their attitude to SVUMF problems. But even this is not all. This year VODNYI TRANSPORT raised the question as to the fact that SVUMF had accumulated above-norm reserves worth several billion rubles. After the newspaper came out on the subject, a representative of the Ministry of the Maritime Fleet arrived at Tiksi, reproved the local comrades and left for home. What measures were taken? Nobody in SVUMF could answer this question, and meanwhile, on 1 November the above-norm reserves rose to almost 4 million rubles!

A curious practice has been introduced at the Ministry of the Maritime Fleet in another way. Every year the deputy ministers hold so-called balance conferences, where the shipping companies report on the work for the year. It is a paradox, but every year SVUMF prepares its own plan for the decisions of the balance conference, and they will not write anything bad about themselves. It is shameful to read the conference decision for 1984. It is so much of a eulogy that it becomes not quite itself. Meanwhile, this document, drawn up at Tiksi, was signed by Deputy Minister V. Nikolaychuk. The decision for last year's balance conference was more modest, but even here there are common words: ensure, intensify, accelerate. It was signed by Deputy Minister L. Nedyak.

But what about the violations of financial discipline, the constant "feeding up" of SVUMF by the ministry and the covering up of transgressions? Nothing. The thunderclap had not yet sounded then. Why did Glavkadry lightly meet SVUMF halfway, when the latter had asked for more dock workers than were required for each navigational period? The Collegium of the Ministry of the Maritime Fleet will possibly draw conclusions from the Tiksi lessons and dispel the hypnosis of satisfactory statistics.

From the Editor

We hope that this article will be of interest to the organs of the procurator's office.

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